EDUCATORS' PERSPECTIVES ON IMPLEMENTING INSTRUCTIONAL COACHING IN AN URBAN SECONDARY SCIENCE DEPARTMENT

by
Willette F. Trotty-Aubrey

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Chair of Committee: Dr. Cameron White

Committee Member: Dr. Christine Beaudry

Committee Member: Dr. Lavera Hutchinson

Committee Member: Dr. Leah McAlister-Shields

University of Houston

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DEDICATION

This is dedicated to Harry, Sydney, and Symone. May the Lord continue to guide us as a family unit, ordering our steps in His way!

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ABSTRACT

Background: In educational usage, the word accountability is synonymous with school improvement. Schools and school districts search for effective measures to provide improvement in instruction, thus improving academic achievement. One measure tried is instructional coaching. Instructional coaching programs generally involve on-site specialists who work with classroom teachers to improve instruction in a content area. Instructional coaching essentially takes a problem or dilemma of a teacher and through reflection and willingness to adapt, promotes a change in instruction. Influences that affect the instructional coaching process include, but are not limited to, teacher acceptance of the instructional coaching model, the amount of time the instructional coach can dedicate to the instructional coaching process, a district's stance on the type of instructional coach, and the perceived support of the instructional coach by the principal. **Purpose**: The purpose of this study is to explore the perspectives of educators regarding instructional coaching implementation through science skills specialists within the secondary science department of a large urban school district. It will question the implementation of instructional coaching by an urban school district and identify possible barriers, or roadblocks, that occurred during implementation that prevent instructional coaching from having a positive effect on student achievement. Though, not a panacea, instructional coaching could be an instrument to address the need for improved academic achievement, however, the implementation must fit the academic setting that it seeks to improve. **Methods**: A qualitative research design was chosen to answer the research question: "What are the perspectives of educators on implementing instructional coaching in an urban secondary science department?" The theoretical framework chosen for this

research is the constructivist theory of Transformative Learning which identifies problematic frames of reference, hence, generating more inclusive, discriminating, reflective, open, and emotionally capable change for adult learners. The participants of this study include the secondary science program director of an urban school district and the secondary science skills specialists from the same district. Convenience sampling was used to select the research participants due to the researcher's monthly access to the participants through district meetings. Data sources will include an interview of the Secondary Science Program Director of an urban school district, the focus groups which will consist of four skills specialists each, grouped by experience in the position, and interviews of four skills specialists using follow-up questions based on individual responses from the group discussions. Data analysis strategies included coding through content analysis of the interviews, the focus groups, and the specialists' interviews after the focus groups. Keywords like time, extra duties, principal support, teacher acceptance, district support were used to identify common perspectives of instructional coaching. This research can provide insight for other schools and school districts that plan to implement instructional coaching through skills specialists in order to determine the best model that will elicit success in student academic achievement. **Results**: The perspective of educators on the implementation of instructional coaching varied based on the position of the educator. District alignment is pertinent to the perspective of the educators, and not having a formal process for instructional coaching provides the opportunity for a variance in implementation. A lack of district protocols also led to differing implementation around district schools, creating a disjointed approach to instructional coaching. The research found that the misalignment of the district administration, campus

administration, and skills specialists led to the underutilization of instructional coaching by 40%. When the district allowed principals to assign other roles, outside of those stated on the job description for science skills specialists, it caused confusion amongst teachers leading to mixed perceptions of teachers on instructional coaching leading to both positive and negative views. These extra assignments decreased the amount of time the science skills specialists had to implement instructional coaching. As a result of a decreased emphasis on instructional coaching, campuses were left with teachers who had a growth mindset not fully utilizing the model, hence allowing those teachers who were content with their teaching to remain stagnant. **Conclusion**: Alignment between all levels of educators is needed for the cohesive implementation of an instructional coaching plan. This alignment will lend itself to the proper emphasis on campuses so that instructional coaching will be utilized to achieve its expected results of improving the academic success of students. District based instructional coaching, which assigns coaches to multiple schools, may be the best way to implement instructional coaching in large urban school districts.

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CHAPTER I

Introduction

In educational usage, the word accountability is synonymous with school improvement. School accountability is the process of evaluating school performance on the basis of student performance measures (Loeb & Figlio, 2011). Educational leaders who are searching for effective measures to increase academic achievement have used a variety of methods including college partnerships, teacher mentor programs, teacher evaluations, standards-based reform, and instructional coaching to support schools and school districts in their quest to become academically acceptable (Johnson, 2016; Knight J. , 2009; Mackenzie et al., 2011; Marsh, Bertrand, & Hueget, 2015; Rosen & Parise, 2017). The ever-changing accountability systems at both the national and state levels, mean that schools and school districts are in a constant battle to maintain or improve upon measures for academic success (Farinde-Wu, Glover, & Williams, 2017; Johnson, 2016; Mackenzie, Skrla, Scheurich, Rice, & Hawes, 2011). Though debates occur in relation to the fairness, accuracy, and need of accountability systems altogether, they are currently required by the United States Department of Education through the Every Student Succeeds Act (2015) (ESSA).

ESSA was signed on December 10, 2015, by then-President Barack Obama with the goal of ensuring the success of students and schools (United States Department of Education, 2015). The major difference between ESSA and its predecessor, No Child Left Behind (2001) (NCLB) is that NCLB held states accountable based on student achievement primarily using reading and math scores when evaluating the performance of schools (United States Department of Education, 2015). According to ESSA, states

must consider more than just test scores. There are four academic factors that each state must use to measure success along with a fifth factor that impacts the quality of a school. The four academic factors that are required for the evaluation of student achievement are as follows: (1) reading and math test scores; (2) English Language proficiency test scores; (3) high school graduation rates, and (4) a state chosen academic measure for grade schools and middle schools (United States Department of Education, 2015). The school quality factors could include characteristics like the following: kindergarten readiness, access to and completion of advanced coursework, school climate and safety, and chronic absenteeism (United States Department of Education, 2015).

Accountability is particularly important for urban schools. The term *urban* is defined as of or relating to a city (Jacob, 2007). When it is coupled with education, *urban* should be referred to as majority Black or Latino schools (Watson, 2011). Many urban schools serve a greater percentage of racial minorities, are located in heavily populated areas, have a higher population of English Language Learners, a lower number of graduates, a lower number of students reading and performing math on-grade level, and high poverty rates; factors that generally contribute to lower student achievement (Shernoff, et al., 2011; Education Week, 2011; National Assessment of Educational Progress, 2017). In fact, poverty rates for primarily Black and Latino schools are 32.3% higher than those of their White counterparts (National Center for Education Statistics, 2017). These characteristics combined with others including high turnover rates, lack of qualified teachers, and overcrowded classrooms have continued to impact the student performance of many Black and Latino students who attend urban schools.

Though ESSA was established to help all students, one of its foci is closing the achievement gap between racial groups (United States Department of Education, 2015). As indicated in the aforementioned paragraph, Black and Latino students are the majority population of urban schools (National Center for Education Statistics, 2017). The population of minority students is predicted to continually grow with minority students being the majority of students under the age of five (Wazwaz, 2015).

The lack of student achievement across urban schools and school districts has caused some to face closures or takeovers by other districts, charter schools, and private schools because they have not been able to meet requirements by the state to show academic progress for all racial groups (Center for Research on Education Outcomes, 2017; National Education Policy, 2015). There are many examples of schools and districts closing due to negative performances in accountability (Center for Research on Education Outcomes, 2017; National Education Policy, 2015). Schools in cities such as New Orleans, Chicago, Houston, and Los Angeles have experienced local, regional, and state takeovers (National Education Policy, 2015; Portin, et al., 2015).

In an effort to excel in the current state of the educational system many school districts have secured curriculum audits by accredited auditors to evaluate the needs of the districts based on state and federal expectations in an effort to increase student achievement and have a positive impact on accountability (Texas Association of School Administrators, 2018). A curriculum audit review assists districts in thinking through and aligning the written, taught, and assessed curriculum so that students receive a more rigorous learning environment (Atlas K12, 2018; Texas Association of School Administrators, 2018). Where some have highlighted cohesiveness amongst curriculums

throughout the grade levels, others have deemed the problem to be a lack of funding towards accountability measures. However, one strategy that many of these school districts have in common is the use of instructional coaches to assist in the fair distribution of curriculum throughout the districts incorporating teacher preparedness and professional development (Parise & Spillane, 2010; Galey, 2016; Rampkellawan & Bell, 2017).

This research will focus on instructional coaching implementation as a measure to improve academic performance in urban schools and school districts as methods of closing the Achievement Gap. The Achievement Gap is defined as the disparity in academic performance between groups of students (Harris, 2018). The Achievement Gap, evident in grades, standardized test scores, course selection, dropout rates, and college completion rates, among other success measures has continued to plague the American education system with limited positive change (Education Commision of the States, 2017; Stanford College of Education, 2011; Harris, 2018). To minimize this achievement gap, instructional coaching is being utilized. Instructional coaches partner with teachers to analyze current reality, set goals, identify and explain teaching strategies to hit prescribed goals, while providing support to reach those goals (Instructional Coaching Group, 2016).

The implementation of instructional coaching is pertinent in establishing a successful program to provide teachers with the support needed to reach goals (Gomez Johnson, 2016). There are many different instructional coaching models, each one with varying cycles established to support teachers and ultimately improve the academic success of students (Gomez Johnson, 2016). There is limited research, however, on the

implementation of instructional coaching. Most research focuses on instructional coaching models and the effect of instructional coaching. Some school districts have spent a great deal of time and money on the implementation of the instructional coaching process to improve the academic success of students (Connor, 2017; Tanner et al, 2017;Gomez Johnson,K. 2016). An instructional coaching program that is implemented well should recoup the investment by showing improvement in the overall academics of the students, the schools and school districts.

Narrative

My journey into education was not the normal path. After high school, I entered Texas A&M University (TAMU) as an undergraduate in biomedical science with plans on becoming a child psychiatrist. I thought this was the perfect job for blending my love for children and my love for the sciences.

My first job was working for a family practitioner as a personal assistant while a student at TAMU. The job description included updating provider information for physician contracts, filing patient folders, answering phone calls, and organizing the office. An independent doctor, in a small town, Dr. Rani Cherian's goal was to help her surrounding community, by providing them with quality healthcare that physicians would not provide due to limited or lack of insurance. I enjoyed my stay and time with Dr. Cherian; after working for her for a year-and-a-half I decided that I no longer wanted to be a doctor. So now what do I do? I was almost finished with my schooling and needed a career option. I still had a love for children and I still had a love for healthcare, so I needed to find a career that would marry the two.

I decided to go into a master's program at the University of Houston Clear Lake in healthcare administration in January of 2004 after graduating from TAMU. I felt that a

master's in healthcare administration would keep me near my love for healthcare and if I worked for a children's hospital it would allow me to still fulfill my need to help children. My healthcare administration program classes were offered at night, so I had time to myself during the daytime. Newly engaged, Thanksgiving 2003, I was married the following summer of 2004. I began staying at home all day. My mother suggested that I look into substitute teaching so that I could occupy my mind during the day. I agreed and decided to work as a substitute teacher because it was close to home, and it gave me the flexibility that I would need to complete a master's program within my allotted time.

Never venturing far from home, I returned to the school district that I graduated from and was trained as a substitute teacher. I worked almost every day from the first day I subbed in January of 2004. I found myself avoiding the lower grade levels, substituting for only middle and high school teachers. Since my educational background was science, I always looked for the science and math course availability to accept for substitute positions. Assisting students in these courses came easy for me. It gave me a sense of purpose in filling the void that students feel without their teacher because I could help with their learning. Teachers began to request me as a substitute, especially in long-term vacancies. As a long-term substitute for a 6th-grade math class, I found myself creating lesson plans, grading papers, and entering grades.

Substitute teacher assignments were easy to come by, and one day I accepted a position at my old high school. I reunited with former teachers who were happy to see me and hear about my plans. They encouraged me to follow through with my dreams (I had awesome teachers). While substituting at my alma mater, I had a long conversation with the principal about my career goals and plans for my future. He remembered me

when I was a student at the school and encouraged me to explore teaching as an option. He suggested that I inquire about alternative certification programs and said I would make a great teacher. He pointed out my strengths as a substitute and said that they would help me as a first-year teacher. He requested that I meet with him before the end of the school year, and we would revisit our conversation and my progress. I continued to sub throughout my master's program and inquired about alternative certification programs. As a daughter of two professors, it was an approved option, so I applied and entered an alternative certification program beginning the summer of 2005. Before the end of the school year, I met with the principal again. He promised me a biology position since I was accepted into an alternative certification program for Life Sciences 8-12. I completed the course requirements the summer before I started teaching in 2005. I had an alternative certification teacher who was a science program director who provided me with the tools I needed to be an educator. I also completed the district's new teacher orientation program, which provided an inside look to how the district was structured and its expectations.

Still, in graduate school, I spent my first-year teaching with little difficulties. I thoroughly enjoyed my first-year teaching experience. I felt well prepared, my students scored well on their state exam, the Texas Assessment of Knowledge and Skills (TAKS), and I even had a child that spring semester.

As a family, we decided that I should take a year off from working on my master's degree; I thought it was too much to handle as a new mother, and I wanted to spend time with my daughter. Against my professor's suggestions, I postponed my graduation by a year. Vowing to keep a promise to myself, I went back to school during

my third year of teaching and completed my master's in healthcare administration. By then, teaching had become my life, and I became interested in becoming a better teacher. I taught many levels of biology: regular, co-teach, support facilitated, English as a Second Language, Pre-Advanced Placement/Gifted and Talented, and trailers (students who failed the course previously). Every experience improved my teaching in some form. Whether it was adding to my depth of strategies or classroom management, each strengthened me as a teacher.

In 2011, I left the senior high school, where I taught for six years and transferred to the ninth-grade center. This group of students was reminiscent of my first years of teaching because the students had not taken biology prior to my course. It was a fresh start that I enjoyed. I started a science club and encouraged my students to see the application of science in their everyday lives. Nominated for teacher of the year, I was excited and looking forward to my future at the ninth-grade center. One day while I was teaching a lesson, my skills specialist, whose office was next door to my room, walked over to my classroom and offered to continue my lesson with my class while I took a phone call at her desk. Nervous, wondering who was on the other line, I heard the secondary science program director's voice. She asked me if I was interested in taking a skills specialist position at the new high school that was set to open the following year. I told her yes, though I dreaded asking my principal about accepting the position. Before returning to my classroom, I requested permission to interview for the position, my principal granted it, and informed me that she was already asked and recommended me for the position as well. I interviewed less than a week later and was offered the job which I accepted.

Opening a new school is a very difficult task. When I arrived at the new school, the principal was excited to show me all the materials the secondary science program director purchased for the school. There were two rooms of equipment in boxes, along with one-fourth of the school's gymnasium also filled with equipment waiting for placement. Plus, there were trucks delivering more equipment every day. I was overwhelmed, to say the least, and was grateful for the help I received from the vendor, secondary program director, and my family in organizing the equipment. We worked up until the last day before teachers arrived to get everything put into a place; we started the school year off with 4 classrooms as storage, but from the outside looking in, we were ready to go.

My first year as a skills specialist and department chair was rocky; and that is an understatement. I had never been in a leadership position before, and only had two meetings that mentioned what my role at the school involved. We started out the school year fully staffed but two teachers quit before the end of the school year, one never returned after Christmas, and the other one left about one month prior to the administration of the State of Texas Assessment of Academic Readiness exam, or STAAR exam. Thankfully, an available retired science teacher stepped in after Christmas and an aspiring teacher stepped into the other role the month before the STAAR Biology test. I provided assignments for the substitutes every day. In addition to ensuring that the students were receiving proper instruction for the year, I also covered classes as substitute teachers could not be secured, kept up with the inventory, located materials for teacher use, and presided over a professional learning community (PLC) that met every day as one big science team and a plethora of other assignments deemed necessary by the

principal. As the years rolled on, I improved in my position as a skills specialist and department chair, attending district pull-outs that provided instructional coaching, modeling, and much-needed conversations between other skills specialists within my district. The meetings had the same effect as mentor/mentee arrangements where you learn from others that have come before you.

In 2017, our district's focus on the role of a skills specialist shifted from managing and guiding the planning of a department to improving teacher instruction through research-based strategies. Instructional coaching for middle and high school campuses became the new initiative of our district, as there were already literacy instructional coaches in the intermediate and elementary schools. An instructional coach's chief responsibility is to bring evidence-based practices into classrooms by working with teachers and other leaders in the school (http://piic.pacoaching.org). Preparing for the shift, the district provided the skills specialists with four days of professional development led by Jim Knight's staff utilizing his book Better Conversations. Skills specialists, assistant principals, and principals were guided through the Knight's instructional coaching model which focused on instructional coaching through the lens of a partnership between the teacher and the instructional coach. This crash course emphasized that the keys to instructional coaching are listening with empathy, fostering dialogue, asking better questions, connecting, finding common ground, redirecting toxic words and building trust (Knight J. , 2018). Then, the district established a series of staff development training sessions for skills specialists and a few assistant principals during the school year focusing more on what instructional coaches should do to foster powerful improvements in teaching (Knight J. , 2018). The continued

professional development was provided by Jim Knight's staff members using his latest book *The Impact Cycle* (Knight J. , 2018).These meetings provided opportunities for skills specialists to compare the implementation of Jim Knight's instructional coaching model on their campuses and take the Impact Cycle further by creating district forms that all coaches could use for teacher enhancement.

Since accepting the position of science skills specialist, I describe my job as a teacher of teachers. In a sense, I provide opportunities for growth for teachers through professional development, observation, and one on one coaching. But is this practice of adult learning through coaching the answer to improving academic achievement in urban high schools? What are the possible influences that affect the adult learning process of instructional coaching?

Rationale

Characteristics of urban schools and school districts include high teacher turnover rates, low attendance rates for students, high poverty rates, lower graduation rates, a higher percentage of minority students and a higher percentage of English Language Learners (New York Times, 2009). Research foundations such as The Annenberg Institute for School Reform (2003) and The Education Alliance (2006) support and encourage the use of instructional coaching as a professional development model for teachers (Borman & Fegar, 2006; Neufuld & Roper, 2003). And though they discuss the effectiveness of instructional coaching (Borman & Fegar, 2006; Neufuld & Roper, 2003), they do not discuss how schools or school districts should implement instructional coaching. In fact, many district and school job descriptions vary for instructional coaches and some tie instructional coaching in with other positions (Kane & Rosenquist, 2018; Connor, 2017; Neufuld & Roper, 2003). These additional tasks instructional coaches

could perform include but are not limited to, facilitating Professional Learning Communities, administrative or department chair responsibilities, school hour duties like morning intake, class change, or lunch supervision, and providing building and district staff development (Kane & Rosenquist, 2018; Connor, 2017). Science instructional coaches could also coordinate STEM programs (Gibbons & Cobb, 2017) and coordinate participation in science fairs. It is important to research the implementation of instructional coaching in a school or school district to ensure that achievement goals are met.

Problem

Though it has been discussed and many reforms have been created because of it, the achievement gap still exists, and urban schools seem to get the brunt of the failure. Urban schools serve 30.4% of all public-school enrollees and suburban schools serve 39.8% of (National Center for Education Statistics, 2017) all public-school enrollees which means that urban public schools educate one-third of the nation's students insinuating that urban schools can have a great impact on the overall education of our society. Bryk states that often what happens in school reform is that one strand or fix is identified as the focus, and very often that becomes the silver bullet. It seems that the silver bullet, in this case, is instructional coaching (Education Week, 2010; Denton & Hasbrouck, 2009; Showers & Joyce, 1996) and this study seeks to identify the perspectives of instructional coaches and how their perspectives affect the implementation of instructional coaching in a large urban school district.

Once a program is identified to address an educational issue such as the Achievement Gap, implementing the program is the next step; however, programs may not be implemented as designed because of barriers in the organization. The Centre for

Evidence and Implementation in its Findings from a Scoping Review looked at 36 publications that reported on the role of implementation in high quality educational practice. The Centre found that outcomes achieved from an educational intervention relate to the quality of its implementation rather than the intervention itself (Rosen & Parise, 2017). Two implementation outcomes measured in these studies answered questions: 1. Was the program or intervention implemented as intended? and 2. Did the users accept its relevance and importance? In an effort to help determine if the quality of the instructional coaching model being implemented by a large urban school district met expectations, the researcher will use evidence from participants through perspectives.

To ensure congruency in the reading of this research, the following terms are defined:

Accountability- School accountability is the process of evaluating school performance on the basis of student performance measures (Loeb & Figlio, 2011).

Achievement Gap- the disparity in academic performance between groups of students (Education Week, 2011).

ESSA- Every Student Succeeds Act (2015) (ESSA). ESSA was signed on December 10, 2015, by then-President Obama with the goal of ensuring the success of students and schools (United States Department of Education, 2015).

Instructional Coaching- Instructional Coaches partner with teachers to analyze current reality, set goals, identify and explain teaching strategies to hit the goals, and provide support until the goals are met." (Instructional Coaching Group, 2016)

Skills Specialist- Provide TEKS training and model core content lessons with guidance on content specific instructional strategies and resources. The Skills Specialist also

facilitates collaborative planning and monitors the alignment of instruction, assessment, and student outcomes to district and state requirements and assists teachers in developing on-time responsive interventions for students with academic needs (Thettes Independent School District, 2018).

Urban school- Mainly Black and Latino schools in city or city-like settings with characteristics of urban schools and school districts include high teacher turnover rates, low attendance rates for students, high poverty rates, lower graduation rates, a higher percentage of minority students and a higher percentage of English Language Learners (New York Times, 2009).

White flight- In the context of education, white flight refers to the trend of decreasing white student enrollment in poor-performing, inner-city public schools (Logan & Zhang, 2010).

CHAPTER II
Literature Review

Introduction

The implementation of instructional coaching can positively impact the academic achievement of African American and Latino/a students in urban schools if the proper district structure, district support, principal support, professional development and teacher acceptance are available for the skills specialist or an instructional coach to utilize while implementing the instructional coaching process. As mentioned above, instructional coaching has been identified as one method to support schools and school districts in the quest to become academically acceptable (Johnson, 2016; Knight J. , 2015; Mackenzie, Skrla, Scheurich, Rice, & Hawes, 2011; Marsh, Bertrand, & Hueget, 2015; Rosen & Parise, 2017). And though there is literature that shows instructional coaching can improve the overall academic performance of students with teachers who are participating in instructional coaching, the research is mostly in suburban and predominately white schools, not urban schools.

The need for instructional coaching in urban schools is to address the achievement gap that has festered in the United States public education system since the inception of public schools. This achievement gap has become the common language in the educational arena when referring to the disparity between African American, Latino/a and White students. Research indicates that the underachievement of students from diverse cultural and linguistic backgrounds in comparison to their mainstream peers continues to be a pervasive problem in urban education (Bowan, Comer, & Johns, 2018; Ford & Moore III, 2013; Public Impact, 2018). Researchers refer to the achievement gap as the most urgent issue in American education for the last half-century, referring to the

failure of a large number of African American, and now Latino/a children and older students to complete their education and reach an average level of competence (Bowan, Comer, & Johns, 2018; Ford & Moore III, 2013; Public Impact, 2018). The achievement gap is compounded by the fact that urban schools are increasingly home to students whose lives and experiences are vastly different from those of their teachers, who tend to be overwhelmingly White, middle class, and monolingual English Speakers ((Futrell & Brown, 2000; Huisman, Singer, & Catapano, 2010).

There is a long history of addressing the achievement gap. The Education Testing Service like many other research groups have traced the history of the achievement gap with regard to the initial attempt to close the gap:

> Expectations increased with the Brown v. Board of Education desegregation decision in 1954 and with the passage of the Elementary and Secondary Education Act (ESEA) in 1965, which focused on the inequality of school resources. The Civil Rights Act of 1964 spiked optimism for progress in education and in society at large. And most recently, NCLB was purposeful in its requirement to "disaggregate" the average achievement scores of state accountability programs to expose the inequality that had to be addressed. (Barton & Coley, 2010).

The initial efforts to close the achievement gap seemed to be working. In fact, between the early 1970s until the late 1980s, a very large narrowing of the gap occurred in both reading and mathematics, with the size of the reduction depending on the subject and age group examined. For some cohorts, the gaps were cut by as much as half or more (Barton & Coley, 2010). But then that statistic began to change. During the 1990s, the narrowing of the gap generally halted, and began to increase in some cases (Barton & Coley, 2010). In reading, for example, for 13-year-olds, the gap increased from a low of 18 points in

1988 to about 30 points at the end of the 1990s (Barton & Coley, 2010).Between 1999 to 2004, the gap begins to narrow again, with the largest reductions occurring in reading, then again between 2004 and 2008 the gap stayed pretty stagnant (Barton & Coley, 2010). But now, we are still talking about the achievement gap because there is still a major difference in student achievement between African American and Latino/a students as compared to their White counterparts.

Educators have addressed the achievement gap in multiple ways, mainly because no one variable is responsible for the stubborn and pervasive achievement gap between African American, Latino/a and White students (Ford & Moore III, 2013). Early childhood programs like Head Start was instituted to make the starting "playing field" equal for minority and poor students through focusing on student's cognitive development (Public Impact, 2018). Considering the causal relationship between health, education, and poverty and by addressing the health disparities of students, issues like absenteeism due to health concerns could decrease allowing students to focus on learning (Basch, 2011).

Some educators and researchers believe in the need for culturally responsive teaching. Culturally Responsive Teaching (CRT) is another aspect of education or lack of, that could have a detrimental effect on the achievement of African American and Latino/a students (Gay, 2010; Landson-Billings, 2006). CRT is based on the fact that most culturally diverse students and their teachers live in different worlds, and they do not fully understand or appreciate one another's experiential realities which has led to the need for the acceptance of cultural diversity with the incorporation of these diversities throughout the learning process (Gay, 2010; Landson-Billings, 2006).

Narrowing the scope specifically to science education, one researcher suggests that the effectiveness of urban science educators depends upon their nuanced understanding of students' culture and backgrounds developed and expressed outside of the classroom (Emdin, 2016). Emdin refers the need to become culturally responsible to students as Reality Pedagogy, which could be applicable to this research as an approach that instructional coaches in the sciences can adapt in their coaching process. This research will address the student achievement gap by investigating adult learning in the form of professional development and education through instructional coaching.

Professional Development

Professional development has long been noted as playing an integral role in standards-based accountability by building teachers' capacity for addressing both basic content knowledge and higher-order thinking and problem-solving skills to meet state standards and improve student achievement (Hochberg & Desimone, 2010). Districts with common curriculums tend to provide district staff development, prior to school, that highlight strategy that is supported by the leadership staff of the district. Smaller districts tend to leave professional development up to the teacher, allowing them to choose what is needed for personal development (Joyce & Calhoun, 2015). Nonetheless, professional development has been a viable method of providing continuing education for educators in the hope that it will improve teacher quality thus increasing student achievement. In fact, in 2008 alone, the federal government spent nearly $3 billion on Title II state grants for improving teacher quality, which is only one source of federal funds for professional development (United States Department of Education, 2015).

Effectiveness of Professional Development

Some consider the professional development system as broken or disjointed (Borko, 2004; Hill, 2007; Hochberg & Desimone, 2010). Despite the evidence that specific programs can improve teacher knowledge and practice and increase student outcomes, these programs seldom reach teachers on a large scale. They have been termed as "woefully inadequate," in spite of the investment of substantial funds for program provision (Borko, 2004). To shape and target professional development so that it is effective in helping teachers respond to the demands of accountability and to understand how best to implement and evaluate it, we must understand where professional development fits into the broader accountability framework (Hochberg & Desimone, 2010). Researchers have found that providing activities that range in format from direct instruction in specific practices to a more organic, inquiry-based format driven by teachers' individual needs or ideas can elicit effective staff development (Hill, 2007). Searching for the magic fix of providing staff development that teachers not only learn from but utilize, has led to the personalization of staff development through instructional coaching.

Instructional Coaching as Embedded Professional Development (Individual)

The ultimate goal of improvement in student achievement cannot occur without changes in student learning and improving student learning depends on the ability of teachers to address specific content students must learn and tailor instruction to meet individual students' learning needs (Hochberg & Desimone, 2010). The National Staff Development Council (2010) also emphasizes the importance of school-based learning and job-embedded coaching as necessary components of effective professional development (Croft, Cogshall, Dolan, Powers, & Killion, 2010). But what is job-

embedded professional development? Job-embedded professional development connotes a direct connection between a teacher's work in the classroom and the professional development the teacher receives through a structured process (National Archives and Records Administration., 2009). It is defined as teacher learning that is grounded in day-to-day teaching practice and is designed to enhance teachers' content-specific instructional practices with the intent of improving student learning (Darling-Hammond & McLaughlin, 1995; Hirsh, 2009). Districts and schools have instituted personalized professional development through the implementation of instructional coaching on either district, school, or peer to peer levels.

Instructional Coaching

History of Instructional Coaching

Prior to instructional coaching, literacy coaching was at the forefront. There is an exorbitant amount of research performed on literacy coaches in elementary and secondary education as compared to the other subjects including science. With the institution of the Reading First program which began in 2002, the research of literacy coaches became prevalent. (Steinbacher-Reed & Powers, 2011). Coaching programs generally involve on-site specialists who work with classroom teachers to improve instruction in a content area, most often literacy (Knight J. , 2006). But as science has continued to grow and develop as an important subject in the educational development of students throughout their careers, it is understandable that just like math and reading, instructional coaching may be a necessary process to improve the learning of science students in the classroom. As literature revealed, there are many aspects of instructional coaching found that could contribute to the understanding of the research question posed.

After educators saw the positive progress, in many cases, with literacy coaches, other subjects including math, science, and social studies have been invited to the realm of instructional coaching through a more general approach to coaching. The founders of instructional coaching can be debated. In 1980 Bruce Joyce and Beverly Showers believed that modeling practice under simulated conditions and practice in the classroom, combined with feedback was the most productive training design, referring to peer coaching which is essentially instructional coaching (Knight, et al., 2012; Showers & Joyce, 1996). The Spokane schools began their process of evaluating service models and in-service design for their Title I ([1] Definition of Title I) schools in 1981. They believe this evaluation process became the first instructional coaching experience, by providing early childhood facilitators, with instructional coaches and facilitators throughout their district. But it was not until 2004 that the Spokane Schools decided to unify their coaching format, to bring coherence to the differing roles through a district-provided manual for coaching (Web Resources on Professional development, 2018)

Instructional Coaching Models

Now leaders in instructional coaching are Jim Knight, Phillip Schlechty, Paul Santoyo, Elena Aguilar, Robert Marzano, Pete Hall, Alisa Simeral, Diane Sweeney, and Sonia Wang, to name a few. They all have the common focus with various tactics of improvement in the art of teaching's effect on student learning. Each model offers district and school personnel a different aspect of instructional coaching. Those models range from focusing on student data tracking and student-centered coaching to teacher centered coaching.

An instructional coach's chief responsibility is to bring evidence-based practices into classrooms by working with teachers and other leaders in the school (Pensylvania Institute for Instructional Coaching, 2008). There are many instructional coaching models that coaches use, the Spokane Public Schools model, Jim Knight's Instructional Coaching Group, Diane Sweeney's student-centered coaching, Elena Aguilar's conversational coaching and Sonia Wang's teacher centered model just to provide a few examples. These models vary in their approach to coaching, from coaching continuums and student-centered coaching to inquiry-based and teacher-centered coaching. Though instructional coaching models may differ, they share the common goal of increasing the overall achievement in student and teacher performance through individualized professional development.

Instructional Coaching as a form or Transformative Learning

How, and if, teachers develop throughout their career can impact their teaching for a lifetime. There are many influences that impact their willingness to be life-long learners as educators. Teacher influences that can impact professional development include but are not limited to the school's culture around professional development, teacher perceived effectiveness of attended professional developments, and teachers will or want to learn or try something new they have learned. Learning is understood as the process of using prior interpretation to construe a new or revised interpretation of the meaning of one's experience in order to guide future action (Mezirow J. , 1991). In all respects, instructional coaching is a transformative method of adult learning. Teachers plan, observe and make decisions based on student learning, or lack thereof.

Research on instructional coaching as a form of transformative learning has been executed recently, but more research is needed to exhaust the application of the transformative theory coupled with the learning of specific subjects like science. Researchers identified how teachers perceived the development of an instructional coaching method based on the transformative theory of Jack Mezirow (Kawinkamolroj, Triwaranyu, & Thongthew, 2015; Kitchenham, 2008). Tools used in the research included mindset tests and questionnaires designed to assess the instructional mindset of teachers and allow the teachers to reflect on how they perceive themselves and their role as educators.

Additionally, in accordance with the transformative process, guidance was provided to improve teachers' instructional mindset (Kawinkamolroj, Triwaranyu, & Thongthew, 2015). Researchers found that under a coach's support, teachers can change their mindset and expression into good behaviors by learning through experience, thorough thinking, best practices, and interaction between relevant parties (Kawinkamolroj, Triwaranyu, & Thongthew, 2015). The team of researchers found that a three-phase process would lead to a successful transformative learning event. The three phases are pre-coaching, coaching for learning, followed by post-coaching conclusion and evaluation (Kawinkamolroj, Triwaranyu, & Thongthew, 2015). In total, it was found that the duration of the process should be about sixteen weeks but could be extended if needed. This research implies that the combining of a coaching model with the transformative theory can truly produce a change in mindset, which can lead to a positive change in student achievement.

Perceptions and understanding are other factors in transformative learning that are instrumental in the process. One researcher studied how a single teacher was able to transform the learning of a pair of students through transforming their learning experience (Meadows, 2007). Listening is the key to this research, and the researcher stated that experiences of listening and being listened to, can begin to heal the brokenness and transform the suffering and experiences of loss into experiences of being understood by others and of understanding more ourselves (Meadows, 2007). This literature is relevant to this research because it follows the transformative process of a high school urban teacher, English in this case, and describe his efforts to listen to and to perceive seemingly disaffected students in his efforts to support their learning (Meadows, 2007). Through open dialogue, the partnership found that when a person is asked and allowed to discuss meaningful texts in ways that explore both his own ideas about the text and his life experiences that he sees as connecting to the text, there is more likelihood that this person will learn in transformative ways (Meadows, 2007). After fully listening to the students, the teacher was able to get a better understanding of their experiences, their needs, and their learning style in order to make better preparations for these students to make academic gains in the teachers' classroom (Meadows, 2007).

Coaching teachers are in all aspects of education, including special education classrooms. While seeking insight into the effectiveness of this coaching model, the research group found that the experiences of 11 inclusion coaches provided support and built capacity for 38 educators during a change in special education service delivery, (Wlodarczyk, Somma, Bennett, & Gallagher, 2015). The researcher found four themes that were consistent with transformative research: systemic barriers, personal growth,

support for educators, and coaches supporting coaches (Wlodarczyk, Somma, Bennett, & Gallagher, 2015). Giving teachers the opportunity to transform through coaching provided opportunities for improvements in student outcomes.

Reflection was a recurring theme found within the transformative learning resources and will need further review in the research, especially if reflection happens with the instructional coaches, teachers, and administrative staff of the school. Teachers, coaches, and principals need to reflect on the coaching process in order to learn from the process with the purpose of improving. How adults reflect seems to be a pertinent part of adult learning and may play an important role in the research that follows. The reflection of principals is important because support of the instructional coach and the teacher sets the pace for the process.

Researchers conveyed that effective instructional coaching requires well-tuned relationships and dynamic conversations between principals and teachers that result in professional renewal (Childress, 2014; Trach, 2014). One of the best ways for principals to show their support of instructional coaching and the coaching process is by the principal developing rapport with his/her teachers before conducting frequent, short classroom observations to examine individual instructional practices and calibrate teaching and learning across settings (Trach, 2014). These observations can encourage teachers to seek, continue, or set new goals for the instructional coaching process.

Principals that incorporate observation and feedback into everyday leadership practice promote an open dialogue with teachers that is focused on instruction and growth, which benefits the teacher, the instructional coach, and the principal (Childress, 2014; Trach, 2014). Researchers found that reflective conversations and instructional

coaching are at the core of moving teachers forward in their professional work and ensuring academic success for their students (Childress, 2014; Trach, 2014). Principals that use data from the evaluation process to align instructional coaching that is personalized for each teacher and supported by the administrators and instructional facilitator or coach is another way that the instructional coaching process can be supported enhancing the perception of support of the process (Childress, 2014; Trach, 2014).

Instructional Coaching as Urban School Reform

Before discussing the impact of instructional coaching in urban schools, urban must be defined. The dictionary definition of urban as anything related to a city (Merriam Webster 2018), though in education the word urban to refers to schools that are mainly African American or Latina/o (Watson, 2011). For this research, it is better to provide the characteristics of an urban school instead of a definition. Urban schools are characterized by high poverty or low income, limited English proficiency or high second language acquisition, family instability, poor health, and over-crowded classrooms and schools (National Assessment of Educational Progress, 2017; National Center for Education Statistics, 2017; Noguera, 2017).

It is important to mention how and why instructional coaching is being used in the urban school setting. As schools search for the magic fix for closing achievement gaps, many districts or schools have started to provide instructional coaching to teachers. Are instructional coaches effective in urban school settings? Some findings demonstrate that instructional coaching led to significant pedagogical transformation and patterns of sustainability and attrition (Teemant, 2014). In some cases, urban teachers who

participated in instructional coaching could see how the instructional conversation changed their perspectives, expectations, and abilities to understand their students. Teachers learned to accept students' experiences and not make assumptions about students' vocabulary, literacy, or world knowledge (Emdin, 2011; Farinde-Wu, Glover, & Williams, 2017; Teemant, 2014). This is important for teachers whose student have gaps that must be filled if they are to move forward in the curriculum.

Teachers supporting teachers in urban schools provided research on how to properly support urban teachers in their plight to provide equal opportunities to all students. Researchers found that satisfaction with the model of instruction is necessary for teachers to feel they are receiving didactic instruction (Shernoff, et al., 2011; Orr, Berg, Shore, & Meier, 2008). Teachers felt the need to adapt the model to reflect the realities of work (Shernoff, et al., 2011). Like the school district studied in this research, many are pairing the leader of Professional Learning Community (PLC) and the Instructional Coach into one position. They also found that teachers new to the profession more easily adapted to the instructional coaching model, while veteran teachers were critical of their new strategies and classroom teaching styles.

Researchers found a connection between instructional coaching and urban schools, some others found that the culture of the school played an important role in increasing the positive dynamics of an urban school, others noted that the term failure performed like a stumbling block or barrier and hindered teachers' efforts to work collaboratively to improve their school (Green, 2015; Habegger, 2008; Nicolaidou & Ainscow, 2005). Instructional coaching is a form of collaborative learning on the part of the teacher and the coach and fits the description of Transformative Learning. The

overarching theme of school failure, improvement required, or the various other ways schools are denoted as unacceptable academically can form barriers to effective coaching and effective teaching.

After four low-performing secondary schools in New York were evaluated because of their continuous low-performance status, it was found that these schools when focusing on instructional leadership integrity, were able to distribute leadership and professional collaboration, and come to a consensus on good instruction and ways to foster continuous improvement (Orr, Berg, Shore, & Meier, 2008). These same researchers found that valuing, trusting, and having confidence in the learning capacity of students and staff, and the understanding of the school region and city relationship had commonalities that could be identified and approached as a method to improve the overall academic achievement of the schools (Orr, Berg, Shore, & Meier, 2008). The four schools they evaluated were strong in one or two of the focus areas above and that strengthening of these areas could cause growth and positive influence in the other areas (Orr, Berg, Shore, & Meier, 2008). It is believed that instructional coaching plays a role in each of these areas and could be the missing piece to connect and create positive school reform for schools like these low performing schools in New York.

Along with establishing instructional coaching as a method for school reform, the school's culture must support the practice of teacher leaders. A case study on urban schools, found that school leaders needed to support teachers in the instructional coaching process (Portin, et al., 2015). The researchers agreed that leadership support includes but is not limited to allotting time for teachers to collaborate and to meet with instructional coaches, encouraging staff development, developing team-oriented cultures,

and helping communicate the themes of the district and incorporating them into instructional planning (Glanz, Shulman, & Sullivan, 2007; Habegger, 2008; Portin, et al., 2015). Others felt that if school leadership must go beyond the schools' culture in urban schools to encompass school reform, it must reach into the community as well. They found that leaders who develop a broad vision for a school and community, positioned the school as a special community asset, championed community causes at the school, and changed the school's culture were able to reform their schools in a positive shift (Green, 2015; Habegger, 2008).

The culture of a school contributes to the bias that teachers may impose on students, especially in urban schools. Researchers explored the effectiveness of targeted coaching conversations to address teacher perceptions of their students and the metacognition of the underlying bias they had for their students (Rampkellawan & Bell, 2017). This case study evaluated two instructional coaches and their conversations with two teachers at a Title I urban middle school in New York City. They found that using critical conversations though topics addressed were uncomfortable for both parties but was necessary to ensure learning on the proper level in the classroom.

Bias observed through statements like “those kids can’t read”, “these kids can’t do that”, and “these kids don’t want to learn” were statements made by the teacher being coached by the instructional coach. Other statements like “why can’t these kids do that” showed that the teachers were frustrated with the students and had not made connections to see what the students needed to improve academically. They were just comparing all of their students (Rampkellawan & Bell, 2017).

Some researchers found that instructional coaching could support other school reform policies by assisting with the process of implementation. Take for instance data-driven decision-making (DDDM), a school reform policy that has made itself another common educational word. DDDM in education refers to teachers, principals, and administrators systematically collecting and analyzing various types of data, including input, process, outcome, and satisfaction data, to guide a range of decisions necessary to improve the success of students and schools (Marsh, Bertrand, & Hueget, 2015; Marsh, et al., 2005). A process that can be easily described as tedious or arduous, DDDM has been instrumental in describing trends with individual students, teaching classes, specific subject teams in departments, schools, districts, and states. Researchers found that having instructional coaches assist and lead in the process of desegregating data helped teachers identify student weakness at the beginning of the school year as they prepared and went through the teaching or instructional planning process (Marsh, et al., 2005).

Researchers found that instructional coaches played significant mediating roles—drawing on both vertical expertise (an individual's knowledge and skills) and horizontal expertise (knowledge that is co-created through interactions and movement across contexts) to help teachers adjust instruction based on data (Marsh, Bertrand, & Hueget, 2015). Specifically, Marsh et al studied to determine if the interactions with coaches based on data would cause teachers to change their method of delivery. The research group found an example of a teacher not changing delivery and an example of a teacher changing delivery due to the interaction of data analysis with the instructional coach.

Evaluation of Instructional Coaching's Effectiveness

The evaluation of the overall effectiveness of instructional coaching is being researched more as districts are moving towards instructional coaching models. One measure of effectiveness is teacher viewpoints. In most cases, teacher surveys are used to determine if they feel that instructional coaches have helped them. It is strictly an opinion-based evaluation and can be swayed by many aspects of instructional coaching.

Researchers found that a lack of perceived qualification of the instructional coach caused teachers to not utilize instructional coaches on their campuses, determining that instructional coaches had to establish a positive relationship with the teachers for them to perceive them as being helpful (Horne, 2012; Teemant, Leland, & Berghoff, 2014). Delving deeper into instructional coaching, one group of researchers developed a measure of critical stance created to improve teacher effectiveness through coaching (Teemant, Leland, & Berghoff, 2014). Data showed that after being coached versus the control group, that was not coached, four out of twenty-one teachers reached the level of critical stance following seven coaching sessions (Teemant, Leland, & Berghoff, 2014). This indicates that the amount of time spent with an instructional coach is critical for enhanced improvement as well (Kane & Rosenquist, 2018). Kane and Rosenquist created a viable scale to evaluate the effectiveness of coaching that schools and school districts alike could use to evaluate efforts to improve academic achievement in low performing schools. The six standards to critical stance of instructional coaching are Joint Productive Activity (JTA), Teachers and Students Producing Together, Language and Literacy Development, Contextualization Making Meaning: Connecting Schools to student lives, Challenging Activities Teaching Complex Thinking, Instructional Conversation Teaching

through Conversation, and Critical Stance Teaching to Transform Inequalities (Teemant, Leland, & Berghoff, 2014). These six standards could be the basis of strategies used by effective instructional coaches with respect to their goals. Likewise, identification of these strategies could help instructional coaches determine possible areas of improvement for themselves.

In the process of looking for ways to determine the effectiveness of instructional coaching, coaches' personal characteristics became a prevalent category. Coaches can be effective in their jobs, and many have similar patterns or characteristics that lend themselves to being highly effective in their jobs. Researchers have discovered that characteristics of an effective instructional coach include being highly self-reflective, able to build and maintain trustworthy relationships, skilled in reorganizing someone else's strengths, abilities, and belief, a servant leader, patient, and can identify how teachers are helped by the coach (ASCD, 2018; Connor, 2017; Galey, 2016). Like Gregory et al established earlier, relationship building is important for the coaching process to succeed, and ASCD highlighted relationships along with the other characteristics mentioned above (ASCD, 2018).

But even coaches with characteristics that indicate effective coaching can be derailed with other assignments or duties that instructional coaches fulfill on the campus level. Many districts, term these other duties as "assigned" which varies from campus to campus (Thettes, 2018). Instructional coaches can be spread too thinly to focus on instruction (Kane & Rosenquist, 2018). It is important for principals and school districts to utilize their commodities, their teachers, as they see fit, but sometimes these commodities can become overworked, which can decrease productivity.

Researchers found that instructional coaches use of time was most closely determined by the condition of their hiring; depending if they were hired by a district or the school (Kane & Rosenquist, 2018; Connor, 2017). When comparing the instructional coaches hired by a district to those hired by a principal, those who were hired by a principal had been assigned many non-coaching duties, which meant that they spent less time working with teachers than their district-hired peers (Kane & Rosenquist, 2018). These non-coaching duties range in variety from hall duty, lunch duty, bus duty, to teaching a course when there is a deficit in instruction or an inadequate number of teachers for the number of students enrolled in the school. An interesting find occurred during Kane and Rosenquist's research, when a district hired coaches and assigned them to schools. The coaches were less likely to be assigned non-coaching assignments and were able to spend more time with teachers going through the coaching process and were even able to develop a stronger relationship with the teachers on the campus (Kane & Rosenquist, 2018). This implies that campus hired instructional coaches may not be as effective as district hired instructional coaches because of the non-coaching assignments associated with campus level instructional coaches. This suggests that districts that have implemented principal-hired instructional coaches may not be as effective as district instructional coaches.

Besides being cost-effective, limiting the non-coaching assignments of instructional coaches allows more time to be consistent with teachers by allowing them every opportunity to support teachers. The successful implementation and sustainability of instructional coaching as a form of professional development in an educational organization is influenced by many factors, but one of the most influential is consistency

(Bruce & Ross, 2008; Tanner, Quintis, & Gamboa, 2017). With consistency, teachers are more likely to sustain the growth or change efforts presented during coaching if there is continued support and accountability. Where teachers are hesitant to implement changes because they are unsure or unskilled in new teaching (Bruce & Ross, 2008) methods, they may not get the consistent support of the instructional coach.

Relationships established during Instructional Coaching

An established relationship with an instructional coach was also brought to the forefront in the research group that investigated the Effects of a Professional Development Program on Behavioral Engagement (Gregory, Allen, Mikami, Hafen, & Planta, 2014). Though the researchers focused on instructional strategies that engaged students, it was determined that the strategies worked better for those who trusted that the instructional coach was not involved as an evaluator, but as a supporter (Gregory, Allen, Mikami, Hafen, & Planta, 2014; Horne, 2012). Because teachers did not have an established relationship, which experts like Jim Knight emphasize as a necessity for his 3-Part coaching model, teachers were unwilling to seek assistance from instructional coaches.

Where some researchers focused on the relationship established by the instructional coach and the teacher, others focused on the strength of the embedded professional development provided by the instructional coach. The National Institute for Excellence in Teaching published a report ensuring that good professional development gets results and questioned why instructional coaching worked for some and did not work for others (National Institute for Excellence in Teaching, 2012). The researchers evaluated the TAP (The System for Teacher and Student Achievement), which

encouraged one on one coaching in addition to mentoring by a master teacher. NIET's researchers found that the number of coaching opportunities had a direct correlation with the teacher's perceived effectiveness of the instructional coaching they were provided (National Institute for Excellence in Teaching, 2012).

One group of researchers took a more narrowed view on understanding the relationships in instructional coaching with a focus on science teachers, and also found that trust was the basis of a strong instructional coaching-teacher relationship (Anderson, Feldman, & Minstrell, 2014). Focusing on relational trust within relationships, researchers found the recurring themes of role synchrony, role shifting, and trust building as tools or characteristics needed for the coach (Anderson, Feldman, & Minstrell, 2014). It is important to understand that role synchrony referred to ongoing adjustments made by the teacher and the coach to align themselves to one another's expectations (Anderson, Feldman, & Minstrell, 2014). Role shifting refers to the teetering between teacher and administrator as a role of the coach. Where teachers see coaches, who taught in high regard, those who did not were looked to more as administrators. Instructional coaches felt that this was a major challenge to the process of coaching (Anderson, Feldman, & Minstrell, 2014).

Other researchers analyzed the relationship between instructional facilitators and the teachers and principals they interact with during the coaching process (Childress, 2014; Connor, 2017; Gardiner, 2012; Range, Pijanowkski, Duncan, Scherz, & Hvidston, 2014). Out of their six research questions, two focused on the relationship of instructional coaches; Research Question 5: How do instructional facilitators perceive the support they receive from principals and teachers? And Research Question 6: How do instructional

facilitators' perceptions of the support they receive from principals differ according to the curricular area and school assignment? Range, Pijanowkski, Duncan, Scherz, and Hvidston found that 67% of the instructional coaches surveyed felt that the teachers they interacted with trusted them, suggesting again that trust is an important factor in the relationship building of instructional coaching (Range, Pijanowkski, Duncan, Scherz, & Hvidston, 2014). They also found high school instructional coaches agreed significantly less than elementary instructional coaches on 5 statements; My principal attends coaching staff development; My principal understands the teaching practices I share; My principal believes that my professional development is important; I am satisfied with my principal's recognition; and my principal does not interfere with my ability to have an impact (Range, Pijanowkski, Duncan, Scherz, & Hvidston, 2014). The difference between the elementary instructional coaching perspective and high school perspective could be reflective of using an initiative that was initiated with elementary schools and then incorporated into secondary schools. Researchers warned however, that reform initiatives implemented in elementary schools should be placed in a different context at the secondary levels because of pedagogical differences between elementary and secondary teachers (Buly, Coskie, Robinson, & Egawa, 2006).

Perceptions and Attitudes

Teachers play a pertinent role in instructional coaching. For successful instructional coaching to take place, teachers must want to be coached and show buy-in to the process. But more important than the teacher's perception of instructional coaching is the perception of the coaching process. Along with teacher perception, the principal's perception or perceived perception of the importance of instructional coaching plays a

role in the implementation of instructional coaching. The instructional coach's perception or perceived perception can influence the instructional coaching process as well.

First, focusing on the teacher's perception, literature was found that discussed how teacher's perceptions impacted the coaching process. How teachers perceive the instructional coaching process, the instructional coaches' job or the reason for coaching affects the efficacy teachers place on the process. Understanding teacher resistance to instructional coaching, investigators researched the coaching process of the i3 CSR projects, which used a combination of Jim Knights Instructional Coaching model and Cognitive coaching by Ellison and Hayes (Jacobs, Boardman, Potvin, & Wang, 2017). While researching the perceptions of coaching, the researchers found that there were three types of resistant teachers. They were either resistant to the time coaching required, resistant to the Collaborative Strategic Reading Process, or resistant to integrating the feedback received from the instructional coaches (Jacobs, Boardman, Potvin, & Wang, 2017). The participants of this study varied in experience and showed no correlation between experience and receptiveness to instructional coaching. The study implies that teacher buy-in and resistance are an individual phenomenon that must be addressed individually by the instructional coach.

On the other hand, other researchers concentrated on new urban teachers' perceptions of instructional coaching and found that trusting relationships were foundational to the coaching process (Gardiner, 2012). The investigation emphasized that it took time to realize that instructional coaches were not there to judge but to help improve practice (Gardiner, 2012). At the beginning of the year, the perception of coaches from most of the teachers were that these teachers were stressed, and extremely

uncomfortable when an instructional coach came in to talk to them about observations and to provide them with feedback (Gardiner, 2012). The continued support and trust that was built through the relationship allowed most teachers to get past the initial fear of judgment to the final stage of coaching for improvement. This study implies that instructional coaching should play a role for all teachers who are new to the career urban schools, but also there should not be a connection between instructional coaching and evaluation of any sort.

Another group of researchers learned that teachers' perceptions of effectiveness and feasibility were related to their colleagues' experience of success (Shernoff, et al., 2011). Using PLC's as a method to share experiences of instructional coaching could be a strategy to encourage those who were not willing to try coaching to give it a try. Specifically, it was determined that new teachers were willing to participate in coaching after a positive relationship was established with the coach (Gardiner, 2012). Once these positive experiences, which included classroom support from the instructional coaching, the new teachers were more likely to continue teaching (Gardiner, 2012). The established connection between the instructional coaches and teachers, both with previous experience and new to the profession, led to a positive perception on the effectiveness of instructional coaching.

Not surprisingly, educators can also misunderstand the instructional coach's role. Instructional coaches are meant to partner with a teacher to analyze current reality, set goals, identify and explain teaching strategies to meet goals and to provide support until goals are met (Kane & Rosenquist, 2018; Knight J. , 2018). The key word in this explanation of the role of instructional coaches is the partner. A partner is anyone who is

interested in enriching educational experiences for students, parents, schools, and the community (Cox-Peterson, 2010). In the process of instructional coaching, the action is goal setting all the activities, strategies, modeling, conversations, realigning of new goals. Unfortunately, some teachers do not see instructional coaches as partners but as data collectors for administration.

Some teachers see instructional coaches as problem solvers. The teachers present a problem to the coach, and the coach delineates a plan of action for the teacher to implement and solve (Knight J. , 2018; Shidler & Fedor, 2010). Viewing the instructional coach as a problem solver can lead to a misconception of the true problem, or to not getting a clear picture of reality (Knight J. , 2018). In order to get a clear picture of reality, it is suggested that teachers are videoed, so that they can see themselves and identify their own goals but this, itself presents a barrier for many teachers and coaching (Knight J. , 2018). The issue of relationship building, and trust has surfaced again. It was found that teachers who did not want to video themselves teaching had a lack of trust of the instructional coach (Knight J. , 2018). Lack of trust can stem from many directions including teachers being skeptical of the instructional coach's goals to partner with the teacher to teachers believing that the videos will be shared with the administration (Shidler & Fedor, 2010). Because of this lack of trust and misunderstanding of intentions of the instructional coach, teachers who were assigned instructional coaches had negative attitudes toward the coaches and their inclusion in general (Wlodarczyk, Somma, Bennett, & Gallagher, 2015). This was one of the systemic barriers found by coaches and was an unexpected barrier. These examples fuel research that suggests instructional coaching should be a voluntary action, not a requirement.

Principals' perceptions or perceived perceptions in the support of instructional coaches are influential as teachers seek the instructional coaching process. Studies suggest that coaches tend to have greater success with teachers when principals publicly support or participate in their work (Gibbons & Cobb, 2017; Matsumura, Garnier, & Resnick, 2010). Older studies have shown and been updated finding that a principal should be promoting a positive school learning climate, protecting instructional time, professional development, a visible presence, promoting high expectations, and providing incentives for teachers and students (Hallinger & Murphy, 1985; Hallinger, 2008; Hallinger, 2005; Kane & Rosenquist, 2018). Principals set the tone as to how instructional coaching infiltrates the culture of the school. School administrators choosing to implement instructional coaching on their campus must understand the diverse perspectives of the individuals involved in the process, such as teachers, instructional coaches, and their unique student population to determine and how these factors develop into a synergistic, focused form of professional development that can have a positive effect on the instructional process and student achievement (Kane & Rosenquist, 2018). Methods of embracing instructional coaching on a campus should be one of many focuses of a principal who wants to see positive student achievement through instructional coaching. Principals increase the impact of coaching when they collaborate with instructional coaches (Knight J. , Instructional Coaching, 2006).

This literature review would be ineffective without the discussion of the instructional coach's perception or perceived perception. Instructional coaches that see themselves as experts and that teachers simply need to buy into her good advice on what was done right or wrong are not viewing instructional coaching as a partnership and may

encounter a lot of resistance (Knight J. , 2018). Because of observing this in his research, Jim Knight has continued to emphasize what he deems as the “The Partnership Principles” in his latest book The Impact Cycle 2018. The Partnership Principles are seven principles that were originally detailed in the book Unmistakable Impact: A Partnership Approach to Improving Instruction. The seven principles are formed around equality, choice, voice, dialogue, reflection, praxis, and reciprocity. But depending on the level of implementation of instructional coaching, along with the other initiatives in the school or school district, instructional coaching can find the principles to be difficult to sustain.

Though Jim Knight's coaching process is based on the teacher seeking out the instructional coach, how are these principles applied when the school principal or district official assigns the instructional coach to help a teacher. Being assigned a teacher to coach instructionally takes away from the partnership and turns it into a requirement, which can impact the success of the process making it more of a "top-down" or directive coaching approach (Knight J. , 2018). Teachers can become unwilling to participate when they are required to. Instructional coaches can often be faced with these blurred lines, especially when they are hired by the principal and not by the district. In order to get pass the requirement of coaching, the instructional coach would have to create an environment that allows teachers to reflect on their current approaches and strategies and help them build competence to practice new skills (Shidler & Fedor, 2010).

Science Technology Engineering and Math

In recent years, the use of the acronym STEM (science, technology, engineering, and mathematics) has become the buzzword among the many U.S. stakeholders who have

heeded the call for creating better-prepared high school and college graduates to compete globally (Breiner, Harkness, Johnson, & Koehler, 2012; Jones, 2016). From an educational perspective, the introduction to STEM can be a variety of activities, but, it usually includes the replacement of traditional lecture-based teaching strategies with more inquiry and project-based approaches (Breiner, Harkness, Johnson, & Koehler, 2012; Jones, 2016). From an instructional coaches' perspective, STEM can provide options for science teachers to increase engaging activities. STEM instruction is a form of scientific inquiry, which is considered an instructional methodology for instructional coaches to utilize in their coaching process.

Little research has been conducted on how instructional coaches can support science teachers, especially those using science inquiry models like STEM. Researchers describe inquiry on science coaching as sparse with a few articles on the practical implementation of science coaches in schools available for their literature review (DeChenne, et al., 2012). Because of this, DeChenne et al designed a descriptive case study that observed a unique STEM professional development that included coaching, both continuing throughout the school year, though initiated in the summer. The researchers found that having the instructional coaches as a part of the same professional development as the teachers made them a valuable part of the professional development experience and had a positive impact on the lessons developed by the teachers (DeChenne, et al., 2012). The teachers felt that the instructional coaches provided a sounding board for ideas, provided feedback on lesson development and teaching, offered suggestions for the lessons, and helped the teachers understand guided inquiry (DeChenne, et al., 2012). Teachers were also appreciative of the availability of coaches to

help work on their lessons; during the 56 hours of professional development, they were given about 5 hours the first week and 6 hours the second week for coaches to assist with lesson planning and development.

One study researched the levels of science teachers and their challenge in implementing STEM in the classroom. Using the Transformative Theory, and a 3-tiered approach to differentiation, researchers determined how to tailor STEM instruction for diverse learners (Teemant, 2014). The three-tier design focused on the change of classroom organization, the design of activities to promote learning, and a classroom culture to promote learning. The researcher discovered that elementary and secondary humanities teachers found it easier to implement STEM utilizing small groups, where the secondary science teachers struggled to manage the small groups. In fact, only 25% of secondary STEM teachers were able to use and consistently manage small group activity centers by the end of seven coaching sessions (Teemant, 2014). Knowing that the management of small groups is difficult for secondary science teachers, skills specialists could provide specialized training in utilizing small groups in science classrooms as a measure of support for teachers coupled with the individual coaching of the secondary science teachers on grouping.

Other researchers studied the supportive structures science teachers needed from professional development and found that providing the science instructional coaches' preparation would increase student achievement in the long run (Schaben, Cutucache, Grandgenett, Mulkerrin, & Houghham, 2016). Training provided included professional development from the Institute for Inquiry affiliated with San Francisco's Exploratorium, Discipline-Based Educational Research and other graduate courses through the

University of Nebraska at Omaha (UNO). Further training for teachers was provided by The Art of Instructional Coaching Training, consulting from Elena Aguilar, and a series of Science Research Immersion Workshops by Omaha's Henry Doorly Zoo and Aquarium, as well as the University of Wisconsin-Extension affiliated with Upham Woods Outdoor Learning Center led to fill alignment with their district's goals. The researchers zeroed in on trainings as the key to professional Development.

The above literature gives examples of how important support for STEM teachers has become in implementing STEM classrooms. STEM education is meant to produce better problem solvers, innovators, inventors, self-reliant, logical thinkers, and technologically literate students, but there are considerations important to achieve the results associated with STEM education (Morrison, 2006; DeChenne, et al., 2012). The researchers found that a focus on support, teaching, efficacy, and materials or S.T.E.M. provided teachers with the tools necessary to implement STEM classrooms (Schaben, Cutucache, Grandgenett, Mulkerrin, & Houghham, 2016). Schaben, Cutucache, Grandgenett, Mulkerrin, and Houghham found that partnering with a local university or a nearby school, attending professional development, taking advantage of training offered by curriculum companies, having common teacher planning time, and encouraging open communication can help teachers feel that they have the support they need to be successful in STEM education (Schaben, Cutucache, Grandgenett, Mulkerrin, & Houghham, 2016). Skills specialists play an important role in ensuring that teachers feel supported in their field and districts should ensure that the skills specialists have been provided with the appropriate professional developments to provide this support, whether that be sending skills specialists to STEM/Inquiry training, instructional coaching

training, or even classroom management training that could have an impact on the learning of science students.

Culturally Responsive Teaching

Diversity in schools is being addressed in multiple avenues including learning modalities, language, and culture (Gay, 2010; Gollnick & Chinn, 2002). Some teachers, schools and school districts have started providing their educators with professional development that focus on one of these areas. As instructional coaching becomes a viable method of individualized professional development, instructional coaches have identified Culturally Responsive Teaching as a mechanism to improve academic success among students. Culturally Responsive Teaching (CRT) is the use of curriculum that is both rigorous and relevant to students' lives and the teacher's desire and ability to build trusting relationships with students and families that extend beyond the classroom. CRT has been identified as one method of closing the achievement gap (Burns, 2005). As America becomes more and more ethnically diverse, there is a growing acknowledgment that cultural proficiency is important for effective teaching (Burns, 2005).

Culturally responsive teaching is influenced by many contexts including familiar background, personal experiences, and professional development. Culturally Responsive teachers focus on rigor, relevance, and relationships in their quest to provide their students with a comprehensive view of their course (Emdin, 2011; Farinde-Wu, Glover, & Williams, 2017; Gay, 2010; Landson-Billings, 2006). Activities that teachers can do to become more culturally responsive are engaged in reflective thinking and writing on their actions and interactions with students, exploring personal and family histories, learning about the histories and experiences of different groups, developing an appreciation of

diversity, and participating in reforming the institution (Richards, Brown, & Forde, 2007). If teachers, schools, and school district's instruction reflect the cultural and linguistic practices and values of only one group of students, then the other students are denied an equal opportunity to learn (Richards, Brown, & Forde, 2007).

When science teachers fail to appropriately respond to issues of diversity, they fail to provide equitable access to opportunities for achieving scientific literacy, a major goal in the National Science Education Standards (National Research Council, 1996). In a case study of two teachers who both had successes with minority students in science courses, parental influence and personal experiences helped shape the views on how to help close the achievement gap through science education (Wallace & Brand, 2012). The researchers found through open coding that their case studies had in common background experiences, beliefs, and practices that influenced how they taught their students (Wallace & Brand, 2012). The case studies practices that were integral to culturally responsive teaching include acknowledgment of the differences of their students, removal of racial barriers, open lines of communication, creating the feeling of togetherness, establishing trust, and creating safe zones (Wallace & Brand, 2012). They also took on measures to try to help students overcome external measures as well as taking ownership of the students learning (Wallace & Brand, 2012).

This research is based on a school district that has instructed school principals to hire a skills specialist for each core discipline, English, Math, Science, Social Studies and some schools utilized an English as a Second Language Skills Specialist as well. These skills specialist duties include leading a PLC, instructional coaching, various campus duties as assigned, observation´s delineated by the principal or assistant principal, and in

some cases their department's inventory as well. In performing the literature review very little research was found on the coach's perceptions or attitude towards a district implementation of instructional coaching and how it ultimately affects student achievement. The skills specialists have participated in multiple training sessions through Jim Knight's Instructional Coaching with sessions exceeding 40 hours in the hopes that all schools would implement the coaching process in the same way. But a few situations may not have been considered in the planning process at the district level and are worth mentioning before the conceptual framework and theoretical framework are discussed.

It is important to note that there is a clause in the contracts of the skills specialist that states that the skills specialist should fulfill the listed duties as well as all other duties as assigned by the principal, this clause allows for principals to utilize skills specialists in multiple capacities. Secondly, most principals did not attend the instructional coaching professional development sessions offered throughout the year, only attending an initial training. Third, teachers were never trained in the instructional coaching process by an outsider, only within and only at certain schools. Fourth, the instructional coaching model the district has adopted was conceived with suburban teachers not urban teachers, which may or may not have any effect on the process. These discrepancies could influence the perspectives or attitude of instructional coaches in an urban school district, specifically with urban high school science skills specialists.

CHAPTER III:
Methodology

This chapter explains the methods used to identify the perspectives of educators on implementing instructional coaching in an urban secondary science department. The research design used for this study is discussed first. Followed by the design of the study, the theoretical framework and themes are discussed. After the framework, the educators who participated in the study are characterized in this chapter. Data collection and data analysis are discussed in this chapter next, followed by the modes of confidentiality and validity of the study.

Research Design- Qualitative

Phenomenological studies provide the researcher the opportunity to study several individuals who have shared the same experience (Creswell, 2007). Phenomenological research differs from other modes of qualitative research in that it attempts to understand the essence of a phenomenon from the perspective of participants who have experienced it (Christensen, 2014). Instructional coaching, though a broad topic, has been narrowed in this research to discuss the implementation of instructional coaching in a large urban school district through the science department. As a recent initiative for Thettes ISD (The name has been changed to protect the privacy of the school district), instructional coaching presented itself as a promising strategy for improving student achievement, but expectations were not met once implemented, and the skills specialists were the participants who implemented instructional coaching.

Theoretical Framework and Themes

The theoretical framework chosen for this case study was the constructivist theory of Transformative Learning, by Jack Mezirow, which identifies problematic frames of

reference, hence generating more inclusive, discriminating, reflective, open, and emotionally capable change for adult learners (Mezirow & Taylor, 2009). Mezirow stated that learning is understood as the process of using a prior interpretation to construe a new or revised interpretation of the meaning of one's experience in order to guide future action (Mezirow J. , 1996). Besides ideas from a few other theorists, Mezirow did not derive the Transformation Theory from a pre-existing theory such as behaviorism, neo-Marxism or positivism (Mezirow J. , 1991). The ten phases needed to secure Transformative Learning are Disorienting Dilemma, Self-examination with feelings of guilt or shame, A critical Assessment of Epistemic, Sociocultural, or Psychic assumptions, Recognition that one's Discontent and the Process of Transformation are shared and that others have negotiated similar change, Exploration of options for new roles, relationships, and actions, Planning a course of action, Acquisition of knowledge and skills for implementing one's plans, Provisional trying of new roles, The Building of Competence and Self-confidence in new roles and relationships; and A Reintegration into One's Life on the basis of conditions dictated by One's New Perspective (Mezirow J. , 1991).

To connect the adult learning theory of Transformative Learning to the foundation of instructional coaching, instructional coaching was viewed as a form of individual professional development. This research seeks to look at the perspectives of an educator's learning through the lens of transformation from the instructional coach's viewpoint, possibly identifying perceived dilemmas within implementation, the school's culture, or the acceptance of its positive effect on student achievement. As well, instructional

coaching was looked at as professional development for teachers to learn from themselves and the instructional coach in order to grow and transform their classroom.

Instructional coaching is a form of Transformative learning; based on the research, it is evident that the ten phases of Transformative Learning are supportive of the instructional coaching process. Starting with the disorienting dilemma, the first three phases of Transformative Learning, are addressed by the first step in the Impact Cycle of Jim Knight, which is getting the clear picture of the situation. Teachers and Instructional coaches must focus on a clear picture of the problem or dilemma that the teacher is facing in the classroom (Knight, 2018). Knight suggests that this clear picture is provided by allowing teachers to see recordings of themselves; where they analyze the recordings and determine their need for change. Together, the instructional coach and teacher set a goal of how to address the perceived dilemma, which incorporates phases four and five.

After the goal is set, the teacher and the coach work together on an action plan that provides steps for the teacher to achieve desired goals, which could incorporate acquiring new skills for the teacher and or instructional coach. After the teacher has acquired new skills, practice is necessary so that these skills become routine in the classroom which are phases seven and eight of the Transformative Learning Theory. Once a teacher feels that newly acquired skills are engrained within one's personal DNA, an observation and or recording, displaying the teacher implementing this newly acquired skill takes place. Then, the teacher critiques the observation or video, and deems the skills a success or a failure, which finishes out the last two phases of the Transformative Learning Theory. At this point, the teacher is either satisfied with the progress made and

has reached a goal, and is ready for a new goal, or wants to continue working on that goal and is not satisfied with the outcome.

Transformative learning theory was chosen for this research because it involved the process of adult learning, times two. There are two equal partners in the process of instructional coaching: the coach and the teacher, both are adults, and both must learn from various situations to improve their craft as educators. This research proposes that the instructional coach, referred to as the science skills specialist because of the dual role, and the teacher both must go through the ten phases of Transformative Learning to make positive changes in student achievement, which will happen if the stakeholders of this relationship have the right perspective of how adults learn.

The strategies that became evident in research and during the study were Professional development, Instructional Coaching, Science Technology Engineering and Math (STEM), and Culturally Responsive Teaching (CRT). These strategies, seen throughout the research study, provided the researcher with data collection points. The strategies discussed in the research not only served as data collection points, but as bridges connecting the theoretical framework to the research study. Together, the strategies set a scope or focus to the vast topic of instructional coaching.

Description of Study Participants

Convenience sampling was used to select the research participants in this study because the researcher had monthly access to the participants through district meetings called Science Think Tanks. For consistency, the participants in this study are characterized by the order in which they participated in the research study. The first participant of the research study was the Secondary Science Program director, Sandra

Willis, which is a pseudonym. She was requested to be a part of the research study through email and accepted the request. Sandra has been in the same position for the last 32 years and has led a group of science skills specialists through a series of meetings called Science Think Tanks. As the program director, Sandra attended and participated in the Instructional Coaching staff development taught by Jim Knights Instructional Coaching Group brought in by Thettes ISD to begin the implementation of instructional coaching throughout the district. Thettes ISD is a pseudonym used for the name of the school district, so that there are no links to the district or employees of the district. It is important to note that all of the district level personnel, elementary and secondary, participated in the introduction and basic information of the Instructional Coaching Group's initial staff development. Sandra was interviewed on February 20, 2019. The findings and analysis from the interview are discussed in the following chapters. The figure below displays the characteristics of the secondary program director for Thettes ISD.

Program Director	**Ethnicity**	**Years as a program director**	**Age**	**Sex**
Sandra Willis	Black	32	63	Female

Table 1 Program Director Characteristics

In an effort to provide a cumulative, but narrowed view, of those implementing the process of instructional coaching in Thettes ISD (a model for this study), only the secondary science skills specialists were invited to participate in the research. The science skills specialists were provided a letter requesting that they participate in a focus group study. Of the eight potential participants, seven skills specialists agreed to participate in the study, but when the focus groups took place, only six science skills

specialists participated, which is 75% of the available group. As expected, there were variations within the group of science skills specialists on each characterized measure. The science skills specialists ranged in age from 30 years to 45 years old and have been in the position of skills specialist from one year to seven years. Because of this, the science skills specialists in this study were categorized into two groups based on years of experience as a science skills specialist. Those who were a science skills specialist for zero to five years were Focus Group A, and those who were science skills specialists for six to ten years were Focus Group B. It is important to note, that none of the science skills specialists have held the position longer than 10 years. Among these science skills specialists, the persons with the most longevity have been in the position for seven years. For more detailed information about the science skills specialists refer to the table below. The names have been changed to protect the identity of the participants.

Science Skills Specialist	**Ethnicity**	**Years as a science skills specialist**	**Age**	**Sex**	**Group Assigned**
Wilma Austin	Black	7	38	Female	B
Dennis Capps	Black	6	39	Male	B
Albert Casteneda	Hispanic	7	45	Male	B
Daniel Khol	White	1	30	Male	A
Candice Paul	Black	4	38	Female	A
Marion Taylor	Black	3	38	Female	A

Table 2 Science Skills Specialists Characteristics

The focus group meetings took place during the lunch break of Thettes ISD's February 22, 2019 District Staff Development Day, where it was customary for the science skills specialists to eat lunch together. In two separate groups, one science skills

specialist acted as the lead and read the questions from the researcher. The science skills specialists were encouraged to answer all of the questions, or state that they agreed or disagreed with the statements being stated, if no response was given.

The final set of data collected for this research came from the individualized telephone interviews of two of the science skills specialists, one from Group A and one from Group B. The science skills specialist from Group A was Daniel Khol and the science skills specialist from Group B was Dennis Capps. Both of these science skills specialists have the least amount of seniority in each group, with Daniel having only one year of previous experience and Dennis having six years of previous experience.

There are two populations that the research samples came from. The program Secondary Science Program Director, Sandra Willis, was one of eleven program directors for the district. The secondary science skills specialists were one group out of sixteen groups. The science department was invited to participate in the research study via letter. The program director agreed as well as six of the eight available science skills specialists agreed to participate in the study. This particular department was requested as participants, because their subject was one of the only two groups that do not have district hired instructional coaches as a part of the department. The other group, that does not have a district instructional coach, had one program director who supervised two groups of skills specialists, so the program director had less availability for interviewing.

Data Collection

The first part of the study was the interview with the Sandra Willis, the Secondary Science Program Director for Thettes ISD. An interview method was chosen for data collection because it solicits descriptions, interpretation, and meaning of a described

phenomenon (Kvale, 1983). Opinion and value questions were chosen to elicit responses on the experience of implementing instructional coaching by the program director and science skills specialists of the same district (Patton, Qualitative research and evaluative methods (3rd ed), 2002). Sandra was chosen to interview because of the leadership provided to the science skills specialists throughout the same urban school district. The structured interview consisted of eleven questions. The questions focused on the implementation of instructional coaching through science skills specialists,' support of instructional coaching, barriers to implementing instructional coaching, and the perceived best model for district implementation of instructional coaching. The secondary science program director was asked the questions in Figure 3.3 below to establish Thette's ISD's stance.

Secondary Science Program Director Interview Questions

1. Do you think your instructional coaching process is structured enough for your district skills specialist to see success if they follow the implementation process accurately?
2. What are the barriers that skills specialists have in initiating instructional coaching on their campuses?
3. How do you provide support for your district science skills specialists as they provide instructional coaching to their various science teachers?
4. Do you think that your districts instructional coaching implementation process provides optimal instructional coaching for your secondary science teachers?
5. How do principals of the secondary science skills specialist support the implementation process of instructional coaching on their campuses?
6. What strengths does your districts instructional coaching implementation model have?
7. What weaknesses, if any, does your district implementation process of instructional coaching have?
8. Are there any barriers that you are aware of that impact the implementation process of instructional coaching with your secondary science skill specialist? If so, how do you help minimize these barriers so that instructional coaching is successful within the secondary science department of your district?
9. How are secondary science skills specialists chosen for your district?
10. Has your district considered having district secondary science instructional specialists that work with various teachers from various schools? If so, what has stopped them from implementing this type of instructional coach?
11. Do you think that district instructional coaches are more effective than school-based instructional coaching through science skills specialists?

Figure 1 Secondary Science Program Director Interview Questions

The second part of this study was in the form of two focus groups. Three secondary science skills specialists, grouped together by seniority according to years of service as science skills specialists in Thettes ISD, formed each focus group. Group A participants have the shortest tenure of zero to five years of service as science skills specialists. Group B participants have the longest tenure of six to ten years as science skills specialists. It is important to note, that within the high school science skills specialists, which does not include the ninth-grade schools, the maximum number of

years of service was seven. The focus groups were each comprised of three science skills specialists, representing 75% of the high school science skills specialists in the district.

Each focus group met separately, as to not influence each other's comments. Focus group participants were given a consent of participation form, with consent for further interviews, and general information about the research. Each participant returned the consent to participate and agreed to the recording of the focus groups as well. The questions were read by one of the science skills specialists who volunteered in each group. The questions focused on the role of the science skills specialists' instructional coaching, factors that influence the instructional coaching process, support from instructional leaders, the perception of educators on instructional coaching, and research-based strategies and their influence on instructional coaching. The science skills specialists were encouraged to answer the questions, make comments on each other's statements, and ask clarifying questions if needed. The focus groups were recorded so that analysis could take place after the collection of data. As a participant of the focus group, the researcher chose not to lead the focus group in an effort to keep the focus group authentic and less biased. This is an accepted practice amongst researches seeking to gain unbiased results (Nyumba, 2017).

Though one might consider focus groups and one-to-one interviews the same, the key difference between one-to-one interviews and focus-group discussions is that the latter is more appropriate for the generation of new ideas or a consensus, both useful methods in qualitative case studies (Breen, 2006). This research used both focus groups and interviews to add a second layer of knowledge about the implementation of instructional coaching in Thette's ISD. In order for the moderator to remain neutral, the

researcher did not lead the conversation in the focus group but did participate and answer questions in the focus group. As a subculture, a group of science skills specialists that meet and discuss their duties including instructional coaching on a regular basis, this focus group was not seen as an invasion of privacy, but as an opportunity to provide insight to a question on the implementation of instructional coaching in Thettes ISD (Morgan, 2013). The focus groups were asked the questions below in figure 3.2.

Focus Group Questions

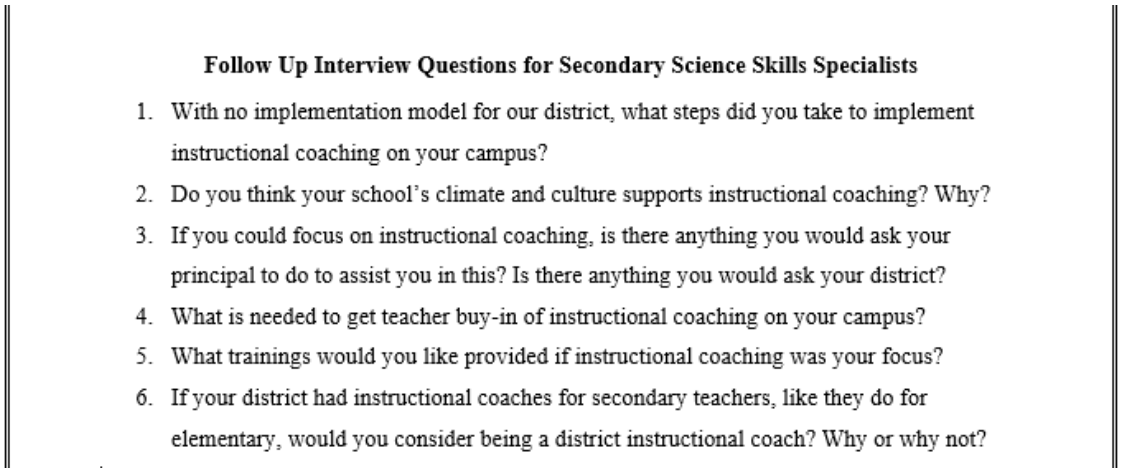
1. Describe your role as a science skills specialist in instructional coaching
2. What percentage of time would you guess that you spend performing tasks associated with instructional coaching? Is there enough time to go through the coaching model that this district has adopted?
3. What are your thoughts on the implementation of instructional coaching in this district? What could be improved/changed? What should stay the same?
4. Do you have any familiarity with district instructional coaches versus campus instructional coaches? Which one do you think has the most positive impact on teachers? Why?
5. Do you think that district instructional coaches have other roles that may impact their ability to perform instructional coaching duties?
6. Do you think that perceptions of instructional coaching have an impact on the implementation of instructional coaching?
7. How does the perception of a teacher on instructional coaching impact the implementation process for instructional coaching?
8. How does the perception of the principal on instructional coaching impact the implementation process for instructional coaching?
9. How does the perception of the instructional coach impact the implementation process for instructional coaching?
10. How doe STEM impact or affect your implementation of instructional coaching?
11. As a science skills specialist who implements instructional coaching, do you feel the need to increase your knowledge of STEM in efforts to assist your teachers?
12. Should science skills specialists who are implementing instructional coaching in an urban school district utilize Culturally Responsive Teaching strategies?
13. How can Culturally Responsive Teaching be implemented through instructional coaching as science skills specialists?

Figure 2 Focus group questions

The third part of the study consisted of interviews of two secondary science skills specialists. Both skills specialists have been in the position of science skills specialists for the least number of years in their respective focus groups. These interviews occurred on March 19, 2019, after the initial focus group study so that the researcher could analyze the data from the focus groups to determine who will be selected for interview. The personal interview questions focused on the implementation of instructional coaching on

the campus, the perceived support of the principal, the culture for learning on the campus, and the utilization of research-based strategies in instructional coaching.

Figure 3.3 shows the follow up interview questions for the skills specialists.



Follow Up Interview Questions for Secondary Science Skills Specialists

1. With no implementation model for our district, what steps did you take to implement instructional coaching on your campus?
2. Do you think your school's climate and culture supports instructional coaching? Why?
3. If you could focus on instructional coaching, is there anything you would ask your principal to do to assist you in this? Is there anything you would ask your district?
4. What is needed to get teacher buy-in of instructional coaching on your campus?
5. What trainings would you like provided if instructional coaching was your focus?
6. If your district had instructional coaches for secondary teachers, like they do for elementary, would you consider being a district instructional coach? Why or why not?

Figure 3 Follow Up Interview Questions for the Secondary Science Skills Specialists

Data Interpretation and Analysis

Following the initial interview with the Secondary Science Program Director, Sandra, the secondary science program director, her responses were transcribed. After the transcription, the interview was coded for categories or themes. Sandra's responses were also utilized as stem questions for the science skills specialists' focus groups and the personal interviews of Daniel and Dennis.

After the focus groups took place, each group's recording was transcribed for analysis purposes. Data was then coded through the use of classical content analysis (Onwuegbuzie, Dickinson, Leech, & Zoran, 2009). Keywords like time, extra duties, principal support, teacher acceptance, and district support were used to identify common perspectives and conflicts to instructional coaching. Once analyzed using word count,

identifying connections, and finding relationships between the data, interview questions for two science skills specialists were created.

Lastly, the interviews of Daniel and Dennis were transcribed for analysis. The data was then coded through the use of classical content analysis, identifying patterns of cohesiveness or opposition based on each interviewee's response. Together, the three research components form the major strands of the dissertation framework utilized in this research and support the choice for triangulation as a viable use for analysis in the research. Triangulation refers to the use of multiple methods or data sources in qualitative research to develop comprehensive understanding of phenomena (Fusch, 20118; Patton, 1999). Both the secondary science program director and the science skills specialist's information combined to form the views of educators on the implementation of instructional coaching and the outline is displayed in Figure 3.4 below.

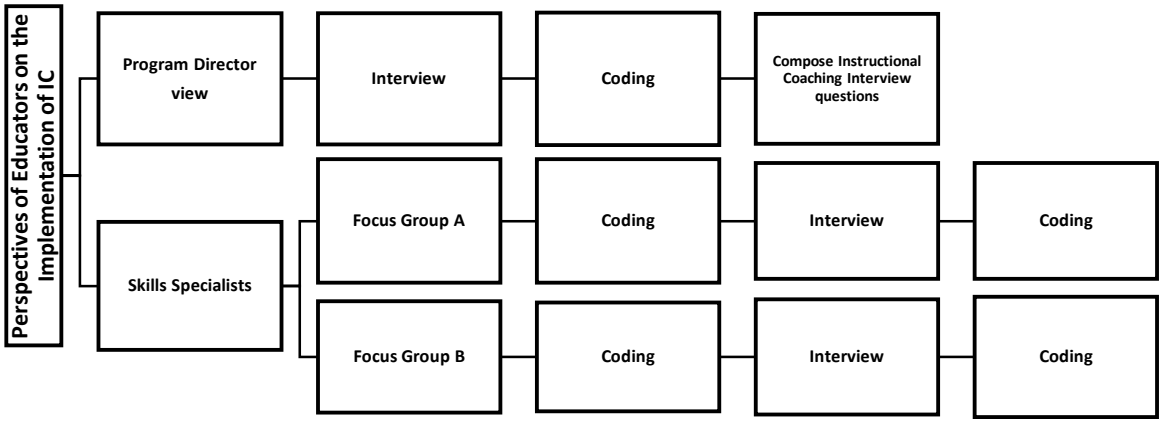


Figure 4 Perspectives of Educators on the Implementation of instructional coaching Dissertation Framework

The secondary science skills specialists in this research were slated to implement instructional coaching on each one's assigned campus based on Jim Knight's Impact Cycle model delivered through multiple staff developments. The secondary science

program director was the district leader and guided the science skills specialists in the multiple facets of the position based on the expectations given to her by other district leaders. The interactions between the different participants based on the position in the school district provided the opportunity for variance amongst the implementation of instructional coaching.

Confidentiality

In order to protect the participants in this research study, participants were given aliases to mask identities. Likewise, a pseudonym was used for the name of the school district, so that there are no links to the district or employees of the district. Since the focus groups were held at the same time, in different areas to ensure that the opinions from each group were kept independent. Some of Sandra's responses along with responses made during the focus groups were shared with Daniel and Dennis in an effort to validate and vet the comments of the other skills specialists and the program director.

Validity

Qualitative studies allow the researcher to focus on a small number of people with regard to specific experiences, collecting data in a natural setting and establishing patterns and themes (Creswell, 2007; Gill, 2008). As a phenomenological study, each group of educators were designed a separate instrument eliciting response based on the various perspectives held by the individual. Qualitative researchers collect multiple sets of data through interviewing participants, studying a focus group, observing behaviors and examining documents (Creswell, 2007; Creswell, 2014; Gill, 2008). Interviews and focus groups were used, to provide data for this research, because they provide an in-depth approach to phenomenological studies (Creswell, 2014). Focus groups are used

specifically when generating collective views and the meaning that lies behind those views (Gill, 2008). Focus groups provide a way for researchers to collect data from multiple people simultaneously (Onwuegbuzie, Dickinson, Leech, & Zoran, 2009).

Results

The views of the implementation of instructional coaching, by science educators, through the lens of Professional Development, Instructional Coaching, Science Technology Engineering and Math (STEM), and Culturally Responsive Teaching (CRT) have provided insight as to the instructional coaching process in an urban school district. Specifically, with regards to professional development, the researcher addressed the results of district provided development sessions, noting who benefitted from them and how they were interpreted. The broad concept of instructional coaching was addressed through the perception of instructional coaches on the job description, the amount of support provided by the principal, and the perceived buy-in received from teachers; each of these impacted the ability to perform duties assigned to science skills specialists. Other aspects of instructional coaching that varied among the perspectives of science skills specialists were the impact of Science, Technology, Engineering and Math, Culturally Responsive Teaching and the need for either in the implementation of instructional coaching in an urban school district.

The purpose of this study was to identify the perspectives of educators regarding the implementation of instructional coaching within the secondary science departments of a large urban school district through the utilization of science skills specialists. It questioned the implementation of instructional coaching by an urban school district and identified possible barriers, or roadblocks, that prevented the expected implementation of

instructional coaching and any positive effect it might have on student achievement. Though instructional coaching could be an instrument to address the need for improved academic achievement, implementation must fit the academic setting that it seeks to improve.

Ch. IV
Findings

Instructional coaching provides teachers with a method of job-embedded effective professional development (Croft, Cogshall, Dolan, Powers, & Killion, 2010). As schools and school districts continue to implement the process of instructional coaching many factors must be considered to lead to its success. From district and school instructional coaches to instructional coaching incorporated within other job assignments, the degree to which instructional coaching is implemented depends upon the perspective of the instructional coach and other educators in the school. These perspectives are discussed through the view of a science program director and science skills specialists from the same urban school district in the research that follows.

The initial point of data collection for this study was through a personal interview with the secondary science program director of Thettes ISD, a large urban school district. The program director was asked a total of eleven questions that pertained to the perspective of the implementation of instructional coaching in the school district (See Figure 3.1. Program director interview questions and answers). In general, the program director responded to some questions as expected and others differently than expected.

The second point of data collection came from the two focus groups of science skills specialists from Thettes ISD, the same district under the leadership of the secondary science program director who was interviewed. Together, the groups answered and discussed multiple questions, mainly about the implementation of instructional coaching in their district, but also questions pertaining to roles in the schools. The discussions led to other questions as well as to some initiatives agreed upon by the science skills specialists.

The third point of data was collected from individual interviews of two science skills specialists, one from each focus group. The science skills specialists were asked extension questions based on their group's responses to the focus group questions, as well as questions that seemed necessary to the researcher. The following findings represent the perspectives of the secondary science program director and science skills specialists from the same urban school district. The findings are delineated by the major themes designated in the research, with responses to the themes presented if the participant mentioned the theme.

Professional Development

Instructional Coaching as Embedded Professional Development

Instructional coaches provide an opportunity for job embedded professional development through one on one communication between the instructional coach and the teacher.

> "Since instructional coaching is integrated in the work-day, and the goal is to improve teacher practice and thus student learning, it seems appropriate to label it as "job-embedded. Teachers do not have to leave the campus to gain staff development and the campus staff development is based on a personal goal that the teacher and instructional coach have crafted together." (D. Khol, personal communication, March 19, 2019)

The opportunity to provide this embedded staff development falls in the hands of the school principal, when instructional coaches are staffed at a campus. One science skills specialist stated that

> "our school, teachers and principals, do not look at skills specialists as providers of job embedded individual staff development, but they look at us more as department staff development providers through the Professional Learning Community, which still makes it job-embedded. If instructional coaching were to be utilized the way it was intended, with teachers making and setting goals for themselves, teachers would utilize the instructional coaches more. Principals determine how science skills specialists are used throughout the school by instructing skills specialists on what to focus on throughout the year." (W. Austin, personal communication, February 22, 2019)

Factors that could contribute to the way principals utilize their science skills specialists could be dependent on state testing results, district testing results, academic achievement level of students in science courses, the principal's vision for the school, and the principal's buy-in to the instructional coaching process. As stated in the literature review, other studies suggest that coaches tend to have greater access to and success with teachers when principals publicly support or participate in their work (Gibbons & Cobb, 2017; Matsumura, Garnier, & Resnick, 2010).

Instructional Coaching

Instructional Coaching as a form of Transformational Learning

Transformational Learning is the adult learning process that requires someone to adapt a behavior based on a want to change. It requires adults to find a flaw or mistake in a situation, set a goal, and provide themselves with enough opportunities to change the outcome (Mezirow J. , 1991).

> "Instructional coaching should be used to make the teacher aware of areas of growth that they have in their profession. Many times, these areas of growth are issues that the teacher is unaware of or does not know how to fix on their own. Having an outside expert's perspective has great potential to transform the teacher's effectiveness." (D. Khol, personal communication, March 19, 2019)

The entire process of instructional coaching provides teachers the opportunity to identify an area that does not meet expectations, adapt it, and provide multiple opportunities to observe the improvement by the instructional coach (Knight J. , 2018). Together, the instructional coach and teacher evaluate the changed behavior to ensure that it produces the wanted outcome, modifying it until it does, which provides Transformational Learning. Providing opportunities for instructional coaching is discussed later in this research. It should be noted that the process was established through staff development trainings provided by Jim Knights Instructional Coaching group, but protocols for implementation were not agreed upon and disseminated throughout the science skills specialists within Thettes ISD.

Besides instructional coaching being a form of Transformative Learning, the focus group itself was a form of transformational learning. Listening to each other discuss their roles, their support of or lack thereof, and processes for instructional coaching provided the opportunity to complete the adult learning stages that Mezirow states are needed for learning. There is now the ability to adapt the implementation of instructional coaching as needed. As a group, the plan was to begin the process of developing protocols that the entire science skills specialist team could use to implement instructional coaching across the district and to share it with the district for adaptation. It

would be preferable, however, for the district to establish protocols where all of the skills specialists are trained together.

Instructional Coaching and Urban School reform

School reform comes in many forms. While some schools focus on providing teachers with staff development that improves teaching and learner expectations, other schools focus on providing students more time at school.

> "Instructional coaching is a viable option for urban school reform. Central office coaching is a vital part of the instructional leadership team. They would assist in communicating the expectation and goals of the district without mixing the formal evaluation process of campus administrators." (S. Willis, personal communication, February 19, 2019)

Agreeing with the secondary science program director, the science skills specialists contend that coaching is a viable option for urban school reform, but suggest that some steps should be in place for the expected outcomes of instructional coaching. During the interview Daniel Khol stated that

> "Instructional coaching is not only viable, but essential for urban school reform. However, the process must be carefully implemented, the training must be research-based, and all parties (admin, teachers, coaches, etc.) must be on the same page as far as the responsibilities, goals, and purpose of the instructional coaches. (D. Khol, personal communication, March 19, 2019)

Along with the consideration of instructional coaching as a viable option for urban school reform, Sandra also contends that district instructional coaches would be more effective

science skills specialists. This information is discussed later within the section of the effectiveness of instructional coaching.

Evaluation of Instructional coaching effectiveness

Based on the secondary science program director's suggestion of a district instructional coach, the focus groups were asked questions about district versus campus instructional coaching. Specifically, the focus groups were asked about the various types of instructional coaches; district coaches assigned to a few schools, district coaches not assigned to any schools, and district coaches assigned to one school and familiarity with these formats, as well as which one(s) would be the most effective. Another measure of effectiveness was based on the amount of time the science skills specialists spent on instructional coaching and how instructional coaching could be improved.

Group A agreed that district skills specialists were able to focus mainly on the instructional coaching process acknowledging that a major difference between district instructional coaches, and that of the skills specialist, is the objectivity of the district coaches. Science skills specialists have an

> "internal knowledge of their teachers which impacts how these teachers are approached by the science skills specialists. I know how they feel about our school, administration, students, and colleagues. I know about their home-life including family and friends. I also know how they feel mentally and emotionally, and I consider all of these things before I make a suggestion on an educational change." (C. Paul, personal communication, February 22, 2019)

This, knowledgeable decision making, impacts the objectivity of a campus-based instructional coach, possibly decreasing the effectiveness of the job-embedded professional development. Two of the three Group A science skills specialists believed that campus instructional coaches could be as effective as district instructional coaches if coaching was a sole responsibility of campus instructional coaches.

Group B science skills specialists agreed, like Group A that the district skills specialists rotated around schools and that both types of instructional coaches could have a positive impact on the academic success of students provided the district instructional leaders emphasized it throughout the district. When asked about the other duties that district instructional coaches have that could negatively impact time spent on instructional coaching, Group A skills specialists believed that there should be limited interference, possibly district meetings, where in Group B, only one specialist believed there should be little interference and the other two did not have enough knowledge about district instructional coaches to make a comment.

A follow up question was asked about the elementary and middle school level campus reading and math instructional coaches within the district, whether the skills specialists knew that position existed within Thettes ISD. Daniel Khol had no clue" that the district employed staff in that position. Two of the three participants in Group B stated that they "did not know" that the district had that position. One skills specialist stated,

> "I knew we had that position in the elementary schools, but I do not understand why we don't have those positions available in the secondary area, especially high school. What parameters were laid out to decide that only one level of our urban

> students would benefit from instructional coaches? How did they (Thettes ISD) decide that secondary schools did not need the extra focus on instruction?" (W. Austin, personal communication, February 22, 2019)

Discussed later in the results will be the question whether science skills specialists would be interested in serving in the role of an instructional coach on the high school level.

The science skills specialists in Thettes ISD also equated effectiveness of instructional coaching to the time spent utilizing the process along with the opportunity to separate the roles of the instructional coach. Asking about the role's science skills specialists play in their schools gave a glimpse of the time spent each day.

> "I am an intervention leader, tutor, secretary, counselor to teachers and students, data analyzer, curriculum provider, PLC leader, lesson designer and implementer, as well as an event planner for faculty and students. Event planning takes up more time than one might think. Every faculty and staff event along with student and community events, the skills specialist plans along with the administration of our school." (M. Taylor, personal communication, Feb 22, 2019)

> My roles include being a janitor, pastor, secretary, nurse, smoother, voice for my teachers, discipline helper, classroom manager, substitute teacher, you laugh, but I am serious, because our job is all encompassing with the clause "all other duties as assigned", I wear many hats. Not to mention, I do the other roles stated by the group like PLC leader, tutor, intervention leader and data analyzer as well. (C. Paul, personal communication, February 22, 2019)

Overall, the science skills specialists in both groups communicated roles of PLC leaders and intervention leaders, conveying a focus on leading teachers and preparing students for the state exam. The table below shows science skills specialists from each group, and the roles that are included in the daily activities of each.

Science Skills Specialists Roles										
Common term	PLC leader	Curriculum provider	Intervention leader	Coach	Trainer	Secretary	data analyzer	master scheduler	tutor	counselor
Group A	3	2	3	2	2	2	1	0	0	2
Group B	3	3	3	3	3	1	3	3	3	0
Total	6	5	6	5	5	4	4	3	3	2

Table 3 Science Skills Specialists Roles. Data table

Though Group A and Group B shared two roles as a whole, it is clear that Group A had fewer roles in common than Group B. Group B had a total of seven more roles in common than Group A. Note that the outlier of Group A and the outlier of Group B, in this question, assume similar roles. Both science skills specialists consider themselves secretaries, discipline helpers, and classroom managers. Further research could be provided to determine what contributed to these commonalities. Identification of the science skills specialists' gender, race, age level, principal's support, and school culture could provide insight as to why only two of the science skills specialists voiced these roles as parts of actual daily activities.

During the focus groups, both groups were reminded about the 70% instructional coaching expectation expressed by a district level instructional leader and then asked about the percent of time actually spent in the instructional coaching process. Group A varied the most, with one specialist spending ten to twenty percent of working time in instructional coaching, one spending twenty to thirty percent of working time in

instructional coaching, and one spending thirty to forty percent of working time in instructional coaching. Group B had no variation at all, with all three of the specialists spending twenty to thirty percent of working time in instructional coaching. With the variation among the percentage of time spent by each science skills specialist, a follow up question on what caused the low percentage of participation in the instructional coaching process was asked of the groups.

Time is a factor that influences the perspective of the instructional coaching process. As skills specialists, there are many roles that combined into one position, including instructional coaching.

> "On a campus, the role of a skills specialist includes, instructional coaching, data coaching, resource provider, mentor, curriculum specialist, instructional specialist, classroom supporter, learning facilitator, school leader, catalyst for change, and learner. The skills specialists are expected to perform many roles, but there is a limit to what can be addressed in a day, month, or even school year." (S. Willis, personal communication, February 20, 2019)

Instructional coaching should be a separate position. It is a cumbersome position and combining it with other important roles makes it difficult to effectively navigate through the instructional coaching process. There are many types of instructional coaches, from campus-based instructional coaches that focus on one or all subjects to district instructional coaches with multiple schools but the same subject, and district instructional coaches with one school, but all subjects to name a few. When asked about the effectiveness of a school-based instructional coach versus a district instructional coach it was said that,

> "Instructional coaches working at multiple schools share innovative practices throughout the district. Instructional coaches connect teachers as well as ideas. If a teacher tells their coach about something new that he or she wants to try in the classroom, the coach may know another teacher within the district who is doing that same practice." (S. Willis, personal communication, February 20, 2019)

Each science skills specialist described a different scenario behind the activities that occupy time during the day, hindering the instructional coaching process. One participant stated that she did not believe she had

> "the option to say no to other roles requested by my principal. All duties as assigned means that I am required to do whatever job they ask me to do, and these other jobs decrease the amount of time I can commit to instructional coaching". (M. Taylor, personal communication, February 22, 2019)

Another science skills specialist stated that

> "deadlines, teacher absences and intervention take up most of my time leaving little to no time to cycle through instructional coaching process. I try to pop into teachers' classrooms, just so I am visible, knowing that I am not fulfilling that part of my job…. especially not to where it is 70% of my daily output." (D. Capps, personal communication, February 22, 2019)

Another science skills specialist stated that

> "there is definitely not enough time in the day to incorporate instructional coaching when I am being pulled in multiple directions and cannot focus on one activity at a time. It's too much! How am I supposed to get everything done? I

can't make any plans for my day, because people come in with their own agendas for my day." (A. Castaneda, personal communication, February 22, 2019)

Percentage of Time Spent on Instructional Coaching										
Percentage	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Group A	0	1	1	1	0	0	0	0	0	0
Group B	0	0	3	0	0	0	0	0	0	0

Table 4 Percentage of Time Spent on Instructional Coaching. Data table

When asked about the implementation of instructional coaching and how it could be improved, it was clear that the science skills specialists had multiple opinions on how to increase the effectiveness of instructional coaching. The skills specialists discussed three factors that they believe contribute to the lack of effectiveness or the lack of clarity with teachers, the clause in the contract that states all duties as assigned, and the principals' expectations and promotion of instructional coaching in the school's culture.

Lack of clarity with the teachers stem from the teachers' perspective of the job of the science skills specialist. As discussed in the research above, science skills specialists hold multiple roles throughout the school year. Many science skills specialists provide teachers a brief description of what the science skills specialist job entails.

"knowing our job description is pertinent on all levels, with teachers, skills specialists, principals, and district level staff. We should be on one accord as to what our overarching goal should be. When a teacher tells me that I am a glorified gopher; and they don't know what I do all day…that hurts and verifies that teachers really don't know what our job description is as skills specialists. (M. Taylor, personal communication, February 22, 2019)

During the personal interview, both Dennis Capps and Daniel Khol, discussed how they brief teachers at the beginning of the year in an effort to provide clarity to the role that science skills specialists play. It is important to note that during the focus groups, the science skills specialists agreed that they take some time at the beginning of the year to list the various roles the position entails. While some provide a whole session on the job description, others incorporate the roles as they mention them in the Professional Learning Community.

> "At the beginning of each year, I give a five-minute spill on what I do as a science skills specialist. I tell them how they can use me as a resource, and how we can work together to strengthen their teaching. I even reiterate this information at the beginning of the second semester, just in case anyone forgot, but no one has asked for any instructional coaching to this day. My instructional coaching experience has been through administrators assigning me to fix a problem." (D. Khol, personal communication, March 28, 2019)

> "Our first day back with the teachers, I provide a 30-minute PowerPoint about my job, how I can help teachers and what they do that allows me to be more helpful. We created a teacher walkthrough form together, so that I could get buy-in from them as to what I would look for during a walk through, and then how that could turn into instructional coaching. But it does not matter what I say, because I will never have the time to coach someone. This year, a teacher left during the year and I have a few teachers with chronic absences that for some reason we cannot always gets substitute teachers for, so I just don't have the time to follow through

> with the instructional coaching aspect of this position. (D. Capps, personal communication, March 28, 2019)

A point of contention with the science skills specialists was seen at the mention of the clause that states science skills specialists will "perform all other duties as assigned" by the principal. Though the science skills specialists were never questioned individually about the clause, the clause was brought up throughout both focus group discussions, when asked what could Thettes ISD do to improve the instructional coaching process.

> "I feel that the district needs to remove the catch all clause that states I must do anything required of my principal. That's a way of saying that principals can make us do anything they want to do, whether we like it or not. Our job is like a catch all." (C. Paul, personal communication, February 22, 2019)

> "Every leadership meeting, when a new need is added, my principal says, oh well the skills can do it, referring to myself and the other skills specialists. My additional duties have ranged from morning duty every day, to lunch duty, test proctoring for advanced placement and state testing, covering classes, planning community nights, and more things than I can think of right now. (W. Austin, personal communication, February 22, 2019)

The skills specialists are in agreement, the clause allows principals to assign extra duties that take away from instructional coaching and other activities that strengthen the achievement of the students.

School climate is another factor that impacts how instructional coaching is implemented on a school's campus. Older studies have shown and been updated, finding

that a principal should be promoting a positive school learning climate, protecting instructional time, professional development, a visible presence, promoting high expectations, and providing incentives for teachers and students (Hallinger & Murphy, 1985; Hallinger, 2008; Hallinger, 2005). Principals set the tone as to how instructional coaching infiltrates the culture of the school:

> Therefore, school administrators choosing to implement instructional coaching on their campuses must understand the diverse perspectives of the individuals involved in the process, such as teachers, instructional coaches, and their unique student population to determine and how these factors develop into a synergistic, focused form of professional development that can have a positive effect on the instructional process and student achievement (Kane & Rosenquist, 2018, p.).

The finding that principals assign additional roles to science skills specialists, in addition to the roles already established by Thettes ISD, explains why instructional coaching does not get the 70% priority that was stated by the district area superintendent. It is important to note that all high school, middle school, elementary school principals and assistant principals have attended an initial instructional coaching meeting geared towards the implementation of instructional coaching. This lack of principal buy-in creates a void in requests for instructional coaching at the schools.

Principals in Thettes ISD, are not prioritizing instructional coaching, therefore teachers do not see the value in the instructional coaching process. The secondary science program director was asked about principals' support of the implementation of instructional coaching on their campuses.

> "Since we have no formal process, I believe principals support instructional coaches in the following roles: resource provider, data coach, curriculum specialist, mentor, classroom supporter, learning facilitator, school leader, change catalyst, and as a learner." (S. Willis, personal communication, February 20, 2019)

Knowing that the skills specialists need instructional support, Sandra Willis, aims to provide support through various aspects. When responding to questions that reflected the support of the secondary science skills specialists with respect to instructional coaching, it seemed evident through responses, that supporting the science skills specialists is a vital part of planning for instructional meetings held for them. The program director utilized phone conversations, observations of skills specialists, and district staff development provided for the skills specialists on instructional coaching as topics to consider for the Think Tanks provided for them (S. Willis, personal communication, February 20, 2019). Think Tanks are meetings held by the secondary science program director to address various district initiatives that impact the science skills specialists. Topics include a

> "variety of instructional best practices such as building relationships with teachers, data informed decisions, questioning without judgment, knowledge of high impact instructional strategies, taking risks, and staying current on best practices." (S. Willis, personal communication, February 20, 2019)

As the district leader for science, the program director decided that unifying the science skills specialists with protocols would allow for consistency amongst the campuses she

observed adding a layer of support for their instruction (S. Willis, personal communication, February 20, 2019).

When the science skills specialists were asked about the support level of principals for instructional coaching during the focus group, Dennis Capps stated that principals need to know exactly what we are supposed to do", citing that the principals and the district leader over all skills specialists deemed that 70% of a skills specialists day should be designated towards instructional coaching, but as mentioned earlier in the research, is not reached by any of the high school science skills specialists in the district (D. Capps, personal communication, February 22, 2019).

> "The perception in the case of campus instructional coaching is up to the principal. If the principal makes it a priority, then the teachers will. If the principal does not make it a priority the teachers will ignore it." (A. Castaneda, personal communication, February 22, 2019)

> "…though district level administrators seemed to encourage the instructional coaching aspect of our job, it does not seem that my principal places any emphasis on it. He has never mentioned instructional coaching in a faculty meeting, a campus email, or a leadership team meeting either." (W. Austin, personal communication, February 22, 2019)

When Daniel and Dennis were asked about a culture for instructional coaching in district schools, the science skills specialists had differing opinions.

> "Yes and no. It does in that some teachers want to get better and they are open and see that. It doesn't because some teachers feel that administration is out to get

> them. They are paranoid and don't trust the administration. They feel that instructional coaches are close to the administration and are out to help get them. Some of the skills specialists take on administrative attributes and try to boss teachers around." (D. Khol, personal communication, March 28, 2019)

> "I believe that my school's climate supports it, but with all of the administrative duties and unforeseen things that come with running a department, the opportunities to coach are just very limited with all of other tasks that I am required to do." (D. Capps, personal communication, March 28, 2019)

Relationship developed from Instructional Coaching

Building relationships is an important piece of instructional coaching. It requires the teacher to trust the instructional coach, which requires the coach to get to know the teacher as a teacher. One way of accomplishing this task is through the observation of a teacher who is interested in the instructional coaching process. Then, the teacher and the instructional coach, in this case science skills specialist, can work together to set goals, determine strategies to satisfy the goals, and attain the goals.

Observations, as discussed earlier, are examples of the many staff development topics that Sandra Willis provided for the science skills specialists at the district Think Tanks.

> "The staff developments on building relationships included a book discussion on Crucial Conversations by Joseph Grenny, Al Switzler, and Ron McMillan, as well as role play on how to assist a teacher in critiquing a lesson. Following the role playing, the science skills specialists critiqued each other and made suggestions or

> amendments plans already presented to teachers in the department." (S. Willis, personal communication, February 20, 2019)

Sandra also stated that

> "…one barrier to building a relationship stems from control. Since teachers are used to being the ones in control, ideas or suggestions coming from someone they consider to be in a position of power may be unwelcome. Therefore, to soften tension, we (myself and the science skills specialists) research ways to soften tension and find ways to offer them choices, creating buoyant coaching partnerships." (S. Willis, personal communication, February 20, 2019)

Science teachers could feel less threatened in Thettes ISD if the department had district instructional coaches, instead of instructional coaching that is embedded with other activities as it is on the middle school and high school levels. Though district-level instructional coaches have not been discussed within Thettes ISD for all levels, it currently exists in the elementary and middle school levels in the form of literacy coaches and math coaches respectively. During the interview, Sandra explained that she believed that district level instructional coaching is the most effective form, but since it is not currently an option, constant communication between the skills specialists and the secondary science program director through district Think Tanks is paramount (S. Willis, personal communication, February 20, 2019.

During the focus groups, both Group A and Group B described why the combination of roles condensed into the skills specialist position posed difficulties in the instructional coaching relationship. But they also mentioned that establishing a

relationship without daily interactions could be difficult. In group A, the science skills specialists believed that the skills specialist position cultivated a bias towards the teachers served under each skills specialist. One science skills specialist stated that,

> "…district coaches could provide unbiased opinion of the teacher, almost like therapy" but also stated that "it could be difficult to establish trust in the relationship because the teacher and instructional coach have little to no interaction before their first meeting." (D. Khol, personal communication, February 22, 2019)

And another science skills specialist stated that

> "As a skills specialist, that knows the issues of my teachers, at work and at home. I know the ins and outs of their lives. And, that effects how and what I request of them as a skills specialist and as an instructional coach. No matter what, it cannot be separated, but if I were a district coach, I would not know them so personally. Without my recommendations and strategies blurred, I do not know how I can believe a strategy may impact their personal issues." (C. Paul, personal communication, February 22, 2019)

Group B science skills specialists agreed with Group A that knowing the personal stories of each teacher was valuable but agreed as well that district instructional coaches could establish relationships needed for instructional coaching.

> "I feel that, a relationship can be established between a district instructional coach and teacher, provided the instructional coach approaches the relationship as a cooperative pair, both contributing to conversations, goals, strategies, data

capturing, and analysis." (W. Austin, personal communication, February 22, 2019)

Though discussed in a separate section, relationship building could also be influenced by the perceptions and attitudes of the participants of instructional coaching. Educators who have bought-in to the challenges of instructional coaching, and see it as valuable, may be more willing to dedicate the time and effort needed to complete the instructional coaching cycle.

Perceptions and Attitudes of Instructional Coaching

Perceptions of instructional coaching can impact the implementation, or lack thereof. Educators, based on experience, buy-in, and knowledge level have varying perceptions of instructional coaching. Teachers play a pertinent role in instructional coaching. For successful instructional coaching to take place, teachers must want to be coached and show buy-in to the process. Along with teacher perception, the principal's perception or perceived perception, and the instructional coach's perception or perceived perception can influence the instructional coaching process. The first educator's perception discussed in this research is that of the secondary program director. Then, the perceived perceptions of the district high school principals, and of the high school science teachers are discussed. Lastly, the perception of the science skills specialist on instructional coaching is discussed.

The secondary science program director, Sandra Willis, believed that instructional coaching is a viable strategy to improve urban schools and has bought-in to the process. Because of this, Sandra continuously provided the science skills specialists opportunities for growth in the area of instructional coaching. It is Sandra's perception that Thettes ISD

does not have a formal instructional coaching process, and because of that she does not serve the role of an evaluator of the science skills specialist.

> "If I had the role of an evaluator, I would have coaching processes or protocols in place for district implementation. In fact, I had the science skills begin protocol building through establishing a baseline in the area observation practices. Ensuring that we looked for the same criteria in a similar manner. As well, I informally work with specialists one on one through a transformation process." (S. Willis, personal communication, February 19, 2019)

The perceived perception of the high school principals in Thettes ISD is provided by the science skills specialists assigned to each school. Research shows that principals set the tone for instructional coaching to take place on a campus, and the data from the focus groups supports this statement. Five out of six of the science skills specialists believe that the campus principal influences the perception of the staff by emphasis demonstrated. If little emphasis is placed on instructional coaching in staff meetings, teacher evaluations, and staff development then it will be perceived as unnecessary or ineffective. If it is emphasized during those same activities, then it will be perceived as a good instructional learning opportunity.

Group B science skills specialists stated that the principal sets the stage for instruction based on the campus need and currently the three campuses are focused on the preparation of state test takers and the intervention process, not instructional coaching.

> "…if the principal makes instructional coaching the priority, teachers will make instructional coaching the priority. But if the principal does not buy-in to

> instructional coaching, you will not see it emphasized. I do not believe that my principal has bought into instructional coaching, it is never mentioned in school." (W. Austin, personal communication, February 22, 2019)

Groups A and Group B both discussed the concept of a Growth Mindset. Growth Mindset is a phrase coined by Carol Dweck to describe underlined beliefs people have about learning and intelligence (Mindsetworks, 2017). Some of the skills specialists, in both groups A and B have participated in professional development on the Growth Mindset and highlighted how it is needed for instructional coaching to take place. From Group B, one skills specialist pointed out that,

> "Just like the Growth Mindset is needed for teachers to enhance teaching through instructional coaching, principals need to establish the building's capacity to grow emphasizing to the campus that learning from mistakes is as crucial for adults as well as it is for students." (W. Austin, personal communication, February 22, 2019)

Though Austin's view was agreed upon by the rest of Group B, Group A had varying opinions of the impact of instructional coaching by the principal. The outlier, Candice Paul, stated that "if I placed more effort on instructional coaching, it would be the team's focus." That statement is opposite of the other two science skills specialists in Group A, agreeing that the principal sets the stage for how the staff perceives instructional coaching.

In fact, during the interview, post focus group, one science skills specialist stated that instructional coaching's impact relied heavily with the principal, stating that it

> "…depends on how the principal uses us. If we are used as instructional coaches and the precedence is set, then we are just that", instructional coaches. The problem is that currently, our principal uses us as intervention specialists, focusing on the state exam and not utilizing us in the capacity of instructional coaching." (D. Khol, personal communication, March 19, 2019)

The perception of the instructional coaches also has an impact on the implementation of instructional coaching. Instructional coaching provides learning opportunities for both the coach and the teacher. These opportunities of growth include learning from each other. One participant in group B stated,

> "If an instructional coach starts the coaching cycle believing that there is nothing to learn from the teacher, and it is just an offering of services, then a one-way relationship is built. Growth is important on our campus because it says that we can all improve, but that suggests that we all have room to grow, not just the teachers." (W. Austin, personal communication, February 22, 2019)

Science Technology Engineering and Math

As mentioned in the literature review, Science Technology Engineering and Math, is referred to as STEM for the remainder of this chapter. STEM education is meant to produce better problem solvers, innovators, inventors, self-reliant logical thinkers, and technologically literate students (Haiyes, 2006). STEM is yet another avenue to explore as science skills specialists, while implementing instructional coaching in the classroom. However, the data shows that the science skills specialists in this research do not place an emphasis on STEM. When asked if STEM was needed for instructional coaching, Group A science skills specialists felt that an emphasis on STEM was not needed for

instructional coaching, but that STEM knowledge would be beneficial. One science specialist from Group A stated,

> "I feel like I can coach any teacher in any subject, and any grade level, not just high school science. STEM is not essential to the instructional coaching process of science teachers. STEM can enhance what our teachers are already doing." (D. Khol, personal communication, February 22, 2019)

One member in Group B had a similar stance to Group A, stating that,

"STEM is not needed when it comes to instructional practices but is needed when implementing various lab experiences and providing the hands-on science opportunities expected by our program director". (D. Capps, personal communication, March 19, 2019)

The other two science skills specialists believe that STEM is an area of science that is unexplored in the Thettes schools and believe that proper training would generate the engagement of the teachers and students in STEM.

> "I think that the only reason that STEM is not deemed as a requirement of necessity to some of you is because it is not a district initiative to include STEM in our classroom. The district has not provided STEM trainings for the multiple grade-levels, but when they do, it will be seen as relevant and a necessity." (W. Austin, personal communication, February 22, 2019)

Culturally Responsive Teaching

Culturally Responsive Teaching, referred to as CRT for the remainder of this chapter, is the use of curriculum that is both rigorous and relevant to students' lives and the teacher's desire and ability to build trusting relationships with students and families

that extend beyond the classroom (Burns, 2005). CRT has been identified as one method of closing the achievement gap (Burns, 2005). It is also another avenue that could be utilized during the instructional coaching process to modify the classroom.

When asked during the focus group if CRT was necessary for Thettes ISD, one science skills specialist from Group A stated,

> "Just look at our demographics, we have such a diverse student population that it warrants the use of CRT. When I first started teaching in Thettes ISD, though it was culturally different for me, I utilized my age and my hobbies to build relationships with my students. Everyone does not do that. I see teachers who cannot relate to their students and have totally lost them." (D. Khol, personal communication, February 22, 2019)

In Focus Group B, one science skills specialist stated that,

> "over the years we have experienced a shift in the ESL population, it has substantially increased and is continuing to increase every year. Because of this we need to be able to meet them culturally as a community of learners." (A. Castaneda, personal communication, February 22, 2019)

Both Group A and Group B science skills specialists agreed that the cultural diversity of the school district warranted the use of CRT with the implementation of instructional coaching. One skills specialist mentioned the need for all employees of the district to utilize being culturally responsive, not just the teachers and the skills specialists. Taking the previous question, a step further, the science skills specialists were asked how they

could implement CRT through instructional coaching. One science skills specialist stated that,

> "I utilize Culturally Responsive Teaching every day, especially with my students, who have experienced many life changes that have impacted their lives. I believe that the entire staff needs it, including clerical, instructional, and administrative staff. The trainings should take place during the staff development activities scheduled before students return for the first day of school". (M. Taylor, personal communication, February 22, 2019)

The skills specialists in Group B also believed that the CRT trainings should be initiated during the district staff development sessions prior to the beginning of school year, but also continued during the district staff development sessions that take place during the school year.

Ch. V
Discussion about findings

The perspectives of educators on the implementation of instructional coaching in an urban school district varied leading the researcher to determine that cohesiveness among the district instructional leaders was not evident. It was clear that the district leaders had multiple views on the implementation of instructional coaching, which led to inconsistent implementation on high school campuses in the district, specifically with the science department. In the remainder of this paper, the researcher will summarize findings and discuss suggestions and future research avenues for districts implementing instructional coaching. This is followed by a conclusion.

Summary

There were three sets of data provided in this qualitative study, first an interview from the secondary science program director of Thettes ISD, a large urban school district, second, two small focus group studies of science skills specialists from the same large urban school district; and third, two interviews of participants from the small focus groups. Each set of data provided insight and varying perspectives of the implementation of instructional coaching in the urban school district. Together the data highlight that the implementation of instructional coaching as a form of personalized staff development must be implemented as one cohesive plan, with established protocols, for a district to render the positive academic growth that is associated with the implementation of instruction coaching.

Instructional Coaching

The table: “Percentage of Time Spent on Instructional Coaching” captures the disjunction between the expectation of time spent on instructional coaching as stated

by the Science Skills Specialists and the actual time spent on its implementation by these participants. The amount of time spent on instructional coaching reported by one Science Skills Specialist was 30 to 40% (16%). Four of the Science Skills specialists found just 20 to 30% of working time (67%) to devote to Instructional Coaching. During discussion of time available for coaching, these Science Skills Specialists agreed that much of the time redirected from instructional coaching was due to the contract clause "all other duties as assigned" by the principal, not understanding the connection of the two, whose immediate goal was not instructional coaching, but student achievement.

It appeared the views of principals were that the science skills specialists have multiple roles, which included observations of teachers, identifying the strengths and weaknesses of the team, leading PLC's, intervention, and instructional coaching. Principals placed the school goals on the improvement of state test scores, emphasizing the intervention role of the science skills specialist. This combination of roles overpowers the instructional coaching role, resulting in a lack of trust on the part of the teacher, and a lack of time on the part of the science skills specialist. The principal's emphasis on intervention combined with, assigning science skills specialists other duties as needed, led to utilization of instructional coaching 40% less than the district expectation.

The data that provided the greatest variance from the expectations of the researcher was provided by the interview with the secondary science program director. It was expected that recognition of the implementation of the district adopted instructional coaching model would add insight to the district's expectation of the process, but instead, the district supports no one formal instructional coaching model (S. Willis, personal communication, February 20, 2019. This was not expected. In fact, the statement is a

contradictory belief from the science skills specialist that the program director leads. This showed a disconnect between the district and the science skills specialists.

It was mentioned in Focus Group A that a district instructional leader, other than the secondary science program director, stated that skills specialists should consider themselves instructional coaches and should spend about 70% of their time utilizing the instructional coaching process. That statement, along with the multiple trainings provided by the Instructional Coaching Group, led both focus groups to believe that they were to implement the instructional coaching model taught in those trainings. The lack of agreed upon expectations between district level leaders could be why principals and other campus administrators do not place an emphasis on instructional coaching on campuses. It is important to note that principals take their directives from the district superintendent; program directors provide training and advocacy for change among administrators and teachers. Principals were included in the instructional coaching training experience.

Hence, another contradictory belief between the secondary science program director and the science skills specialists is the perceived support by the principal. The expressed view of the secondary science program director was that the campus principals supported instructional coaching on campuses by providing resources, as a data coach, a curriculum specialist, a mentor, a classroom supporter school leader and change catalyst (Willis, 2019). The science skills specialists believed the principal to be the stage setter, emphasizing what is important on the campus by tasks that are required of the science skills specialist. Unfortunately, most of the principals' current foci are on increasing the passing percentage of the state science test. Instructional coaching could support that effort, however when principals do not also focus on instructional coaching as a support

for improving instruction and concurrently test scores, it makes the statement to the school that the priority is not with instruction. If the campus focus is not instructional coaching, then teachers will not seek out instructional coaching and student achievement in the classroom will not improve as is expected.

It is important to note that the secondary science program director and the science skills specialists believe that changes are needed in the instructional coaching model within the title and expectation of the instructional coaches. Both contend that the task of instructional coaching should be separated from all other tasks or roles; it should not be coupled with another position in the district. The program director cited literature that supports the provided statement and the observation and conversations of roles of the science skills specialists on school campuses. The point is emphasized by the science skills specialists through the mentioning of time as a hindrance to the provision of instructional coaching. That was the request of both interviewees of the district and the principals.

The science program director and the interviewees contend that the district should have a position of district instructional coaches for the secondary science level. One reason this should be separate is because the science skills specialists have a personal relationship with the teachers for whom instructional coaching is provided, creating awkward moments during classroom observations and critical conversations. Another reason instructional coaching should be separate is the time factor; science skills specialists do not have the opportunity to devote 70% of the day to instructional coaching. Science Skills specialists are PLC leaders, curriculum providers, intervention leaders, trainers, data analyzers, master schedulers, tutors as well as instructional coaches.

If this urban district is truly using instructional coaching as a way to improve the academic success of students, it needs to commit to the task by establishing an instructional coaching department that's sole goal is to provide a service to the teachers.

Professional Development

After stating that there was no one supported instructional coaching model in the district, the secondary science program director indicated that the lack of this formality adds to the barriers of the skills specialists trying to implement instructional coaching on school campuses. The comparative views of the science skills specialists in both focus groups A & B and that of the individual interviews of the district science director demonstrated a lack of formality coupled with a lack of district protocols for the implementation of instructional coaching. This leads the researcher to believe that protocols must be established prior to the implementation of instructional coaching in schools. The science skills specialists believe that this information must be shared, and all staff trained through staff development prior to the start of the school year. This strategy alone could have tremendous impact on the use of instructional coaching as personalized staff development in school districts.

Perceptions/Attitudes

Instructional coaching is influenced by the perceptions of teachers, principals, and instructional coaches. It was discussed earlier that the principals establish the culture for the success of the instructional coaching by the emphasis placed on the instructional coaching process. The secondary science program director, as well as the science skills specialists believe that teachers play an integral role in the implementation of instructional coaching. Both the program director and the teachers used words "feeling

threatened" and "barrier" to describe how a teacher's perception can create a negative impact on implementing instructional coaching (S. Willis, personal communication, February 22, 2019. Teachers will be uncomfortable and not utilize the process having not been trained how instructional coaching provides personal staff development geared towards individual needs. The skills specialists also mentioned that teachers who do not have a growth mindset and are satisfied with their current teaching strategies would not seek instructional coaching. An established culture of growth and continuous learning through staff development, mentoring, and coaching should be established so that these barriers will not negatively impact the implementation of instructional coaching.

Science Technology Engineering and Math and Culturally Responsive Teaching

Research based strategies are expected activities for science skills specialists to adopt on campuses in this large urban school district. It is an area of focus for the secondary science program director as mentioned at nearly every district think tank hosted. STEM and CRT are researched based strategies that have the intention of engaging students in lessons designed to improve learning. Where one focuses on the integration of science, technology, engineering, and math in the classroom, the other focuses on the integration of the students' cultural background and learning style students bring into the classroom, both are meant to have a positive impact on learning.

Most of the science skills specialists in Thettes ISD believed that STEM-based strategies were not needed to implement instructional coaching, but CRT was necessary. STEM-based strategies were considered more of an enhancement, an option for instructional coaches to utilize if the teacher needed to increase engagement of the integration of science with other subjects. Though STEM-based strategies were not

identified as a vital component of instructional coaching for these science skills specialists, it would be an avenue to explore the opinion of the science teachers and what impact STEM-based strategies might have on teaching Thettes ISD students.

CRT, however, was necessary for their district considering the diversity of the school district. The district in this study, Thettes ISD, is predominately Latino/a, with Black students representing the second highest population, followed by a much smaller population of Asian and White students. This fact, coupled with the difference in representation by the district employees, especially in the faculty and staff of campuses, leads the science skills specialists to believe that CRT should be part of the staff developments that takes place before the school year starts, and should continue throughout the school year.

Implications and Suggestions for Establishing Instructional Coaching

After completing the research and analyzing the data, the researcher considered the themes established during the literature review on the implications and recommendations for leaders of large urban school districts interested in establishing instructional coaching. Professional Development, Instructional Coaching, Science Technology, Engineering and Math, and Culturally Responsive Teaching were the areas that were researched and then discussed during the data collection phase of this research. The implications that follow include recommendations made based on the data that was collected from the program director, focus groups, and science skills specialists' interviews.

Instructional Coaching

Establish Alignment

The first implication of the study is that without the proper implementation of the instructional coaching process teachers will underutilize instructional coaching. School districts need to prioritize the academic success of students through instruction, and all instructional leaders in the district need to buy-in to the instructional coaching process. Additionally, the instructional leaders of the district need to establish the job description and activities of an instructional coach, at the campus level, that is separate from a skills specialist or any other role in the district. Once a description is established, the district should provide protocols and hold staff developments that introduce, explain, and provide examples of the protocols with teachers, principals, and instructional coaches.

Alignment could be established through a committee that includes district administration, campus administration, skills specialists, and teachers discussing and establishing protocols for instructional coaching as a district. These committees should meet on a monthly basis, discussing the implementation of instructional coaching throughout the district. Along with a committee, professional development should be provided for all district administrators, campus administrators, skills specialists, and teachers on the instructional coaching process and each participant's role in the process. As an adult learning process, instructional coaching participants need the opportunity to learn from the process itself.

Establish a Culture of Learning on All Campuses.

The second implication for this research is that equally as important as the alignment of the district with the utilization of instructional coaches on school campuses

is the culture of learning on the campus. As established in the literature and again in the data, the principal provides the basis for the culture of learning at the school. Principals set the precedence as to what the school will focus on for the year. They determine the school's priorities in retrospect to guidance from the central office administrative team.

Careful not to assume that all principals know how to establish a culture of learning, the researcher suggests that professional development on establishing the culture of a school is a part of the principal's trainings that takes place prior to the return of teachers. Principals should be expected to encourage adult learning through staff development trainings on topics like the Growth Mindset or life-long learning. Principals can offer to send teachers to staff developments and can place staff learning as a priority through the praise of teachers who are continuing to learn. But most importantly, principals should encourage and maybe even offer incentives to teachers who utilize instructional coaching as a personalized staff development.

Perception/Attitudes.

The third implication is the most complex of the previous implications as it refers to the perceptions of the teacher, principal, and science skills specialist. Teachers, principals, and science skills specialists can have a positive or negative impact on the implementation of instructional coaching. Defining the role of each stakeholder will support the establishment of the school's culture, being not just one of learning, but one of mutual respect. Teachers have perceived negative perceptions of instructional coaches because the role of the instructional coaches and the role of teachers affected in an instructional coaching relationship are unclear.

As mentioned in the results, teachers believed that the skills specialists and the assistant principals that performed teacher evaluations worked together on the evidence provided for observations. Though this is not the intention of the position, without the separation of the instructional coach from the skills specialist position, teachers have a hard time trusting the skills specialist and the instructional coaching process. A possible solution to this overlapping role is to establish district instructional coaches that rotate within the level and content area, to provide instructional coaching only, separating the role from the skills specialist's role, which could be focused mainly on campus development.

It is noted again that principals in this study were perceived as not placing emphasis on the importance of instructional coaching in setting goals of increasing academic success on school campuses. In fact, the principals of these skills specialists appeared to focus on state testing scores and improvement of these scores to ensure that the accountability rating of the school, likewise, improved. One can assume that the principals involved prioritized state testing outcomes over the overall academic achievement of the school, but the two, go hand and hand. Focusing on the overall instruction of the school could foster greater state testing outcomes because of the instructional coaching impact on teachers who directly affect the success of students, therefore as mentioned earlier, principal development in areas like a Growth Mindset, creating a Culture of Excellence, and Creating a Culture of Professional Learning are areas that Thettes ISD, and other large urban school districts may seek to prepare principals for developing teachers.

Research-based Strategies

The fourth implication has two parts. First, STEM-based strategies, surprisingly, is not considered a necessity for the effectiveness of the process of instructional coaching. STEM-based strategies, however, is seen as an enhancement of the instructional coaching process. STEM-based strategies incorporation at the district and campus levels should be encouraged for teachers and instructional coaches, alike.

Though STEM-based strategies were not identified as a vital component of instructional coaching for this research, it would be an avenue to explore the opinion of the science teachers in the same district. Investigating the perceived need for STEM-based training and its incorporation into the instructional coaching process. For districts that use a common curriculum, STEM-based strategies would need to be written into the curriculum before most teachers implement it. Science teachers throughout the district would benefit from attending STEM-based training that provides the opportunity to intertwine STEM-based strategies with the established curriculum that is provided.

Secondly, Culturally Responsive Teaching is necessary in urban schools and school districts to help teachers, and administration build relationship with students and the community. CRT training should not solely focus on teachers, but all of the staff that interacts with students, providing opportunities to build a positive culture throughout a campus and district wide. Experts on establishing a Culturally Responsive Teaching Program in an urban school district should be selected to present to urban districts that might need assistance in establishing a Culturally Responsive Culture.

Together, the implications and suggestions could provide large urban districts a foundation to establish instructional coaching. Following these suggestions could turn the

Achievement Gap into an Opportunity Gap. Currently Thettes ISD, and many urban school districts with similar demographics and urban issues, use instructional coaching, through the role of a skills specialist, as a strategy to increase student achievement. Though state achievement scores have increased slightly throughout Thettes ISD, the implementing instructional coaching as intended may produce higher gains. The science skills specialists spent a significant amount of time in the roles of interventionist and tutors, which possibly accounts for the slight increase in state testing scores.

Suggestions for Future Research

This research focused on a small pocket of skills specialists in a large urban school district. These skills specialists work at senior high school campuses in the same district and work with science departments. There are other skills specialists within the science department, who work at ninth grade only schools, where the school's only science course is biology. It would be interesting to see how these science skills specialists would answer the focus group questions and how these answers compare to those science skills specialists at the senior high schools. It is important to note that most high schools in Thettes ISD, a large urban school district offer between twelve to fifteen different science courses.

High school science skills specialists are not the only skills specialists in this large urban school district. Each senior high school has three to four skills specialists, one for the major core subjects of science, math, social studies, and English. All of the skills specialists in this district attended the same staff development sessions on instructional coaching. Perspectives on the implementation of instructional coaching by all skills specialists in the district could provide more insight to further research.

Not included, but very important is the perspective of the principal and the teachers from their own viewpoint. Principals could be focusing on increasing scores instead of the overall academic achievement because of pressure from district-level administration. Interviews from principals could have enhanced this research by providing perspectives that shed light on why instructional coaching was not highlighted as a source of personalized staff development during the school year. Similar to the principals, high school science teachers could have been included in this research as well, helping to understand why a lack of utilization of instructional coaching presented itself, when it was available through the science skills specialists.

The studies discussed above includes qualitative inquiries that focus on the implementation of instructional coaching in a large urban school district, but quantitative studies could be implemented as well, focusing on the outcomes of the instructional coaching models. Connecting instructional coaching and the academic success of students on state testing could be an avenue of research that could convince school principals and districts alike that instructional coaching can provide overall academic success of students. Instead of focusing on the perspectives of educators, focus could be placed on course academic scores, local and state assessment scores and the adherence to an instructional coaching process by the teacher, coach, principal, and district.

Conclusion

This research set out to reveal perspectives of the implementation of an instructional coaching model in a large urban school district, Thettes ISD. By all accounts, a role out of instructional coaching to all of the middle school and high school teachers in a district with more than 64,000 students is considered a small-scaled

implementation as compared to a state role out of instructional coaching (Kovaleski & Glew, 2006). Studies show that large-scale implementation of instructional coaching is not as successful as smaller-scale instructional coaching implementation. This research focused solely on the implementation, or practice, of instructional coaching with the position of science skills specialists in a large urban district identifying possible areas of impact from the perspectives of the educators involved in instructional coaching. Though nine science skills specialists were invited to participate in the study, six did, creating two equal focus groups to study, with three members each.

And like, other research established, combining instructional coaching with other positions did not provide the positive academic achievement and growth that the district expected to see when implementing instructional coaching throughout the district (Kane & Rosenquist, 2018). An educational leaders' goal should be to implement instructional coaching in a manner that exudes a positive growth in student academic achievement looking beyond the costs, to the effectiveness of instructional coaching. Incorporating instructional coaching into another position, does not allow for the time needed to focus on improving the achievement of students. When instructional coaching is combined with a campus leadership position like a skills specialist, it is difficult to provide the unbiased focus needed to build a positive working relationship with teachers who are requesting instructional coaching. Whether the instructional coach is campus based or district-based, the sole responsibility of instructional coaching should be fostering working relationships with teachers in the quest to make classrooms places where learning and student growth takes place.

Placing into policy and practice, an educational strategy, instructional coaching, that allows for individual implementation led to a disjointed effort. District leaders deemed it feasible for science skills specialists to include instructional coaching as another role, expecting it to assume 70% of their time. Instead, most science skills specialists were only able to commit to this role between 10 to 30% of time. A lack of an established alignment between instructional coaching and a culture for learning led to less than expected success for instructional coaching in Thettes ISD.

In a time where state and federal support of public education has wavered, many school districts have tried to create more with less. Financial considerations were the sole reason behind adding instructional coaching as a role delineated to the skills specialists, instead of establishing a separate position on the high school level. The need to trim budgets, provide competitive pay scales for teachers, and provide comprehensive education for students has some urban districts struggling to end each year with a deficit. There is a lack of equity within the financial support of public suburban schools and public urban schools, which continuously feeds the Achievement gap (Anderson J. , 2017). Urban school districts need to be funded in a manner that allows them to provide the strategies needed to increase the academic achievement level of students, to substantially close the Achievement gap (Anderson J. , 2017).

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Appendix A

Tables

Program Director	Ethnicity	Years as a program director	Age	Sex
Sandra Willis	Black	32	63	Female

Table 5 Program Director Characteristics

Science Skills Specialist	Ethnicity	Years as a science skills specialist	Age	Sex	Group Assigned
Wilma Austin	Black	7	38	Female	B
Dennis Capps	Black	6	39	Male	B
Albert Casteneda	Hispanic	7	45	Male	B
Daniel Khol	White	1	30	Male	A
Candice Paul	Black	4	38	Female	A
Marion Taylor	Black	3	38	Female	A

Table 6 Science Skills Specialists Characteristics

Science Skills Specialists Roles										
Common term	PLC leader	Curriculum provider	Intervention leader	Coach	Trainer	Secretary	data analyzer	master scheduler	tutor	counselor
Group A	3	2	3	2	2	2	1	0	0	2
Group B	3	3	3	3	3	1	3	3	3	0
Total	6	5	6	5	5	4	4	3	3	2

Table 7 Science Skills Specialists Roles. Data table

Percentage of Time Spent on Instructional Coaching										
Percentage	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Group A	0	1	1	1	0	0	0	0	0	0
Group B	0	0	3	0	0	0	0	0	0	0

Table 8 Percentage of Time Spent on Instructional Coaching. Data table

Appendix B

Figures

Secondary Science Program Director Interview Questions

1. Do you think your instructional coaching process is structured enough for your district skills specialist to see success if they follow implementation accurately?
2. What are the barriers that skills specialists have in initiating instructional coaching on their campuses?
3. How do you provide support for your district science skills specialists as they provide instructional coaching to their various science teachers?
4. Do you think that your districts instructional coaching model provides optimal instructional coaching for your secondary science teachers?
5. How do principals of the secondary science skills specialist support the implementation of instructional coaching on their campuses?
6. What strengths does your districts instructional coaching implementation model have?
7. What weaknesses, if any, does your district's instructional coaching model have?
8. Are there any barriers that you are aware of that impact the implementation of instructional coaching with your secondary science skill specialist? If so, how do you help minimize these barriers so that instructional coaching is successful within the secondary science department of your district?
9. How are secondary science skills specialists chosen for your district?
10. Has your district considered having district secondary science instructional specialists that work with various teachers from various schools? If so, what has stopped them from implementing this type of instructional coach?
11. Do you think that district instructional coaches are more effective than school-based instructional coaching through science skills specialists?

Figure 5 Secondary Science Program Director Interview Questions

Focus Group Questions

1. Describe your role as a science skills specialist in instructional coaching
2. What percentage of time would you guess that you spend performing tasks associated with instructional coaching? Is there enough time to go through the coaching model that this district has adopted?
3. What are your thoughts on the implementation of instructional coaching in this district? What could be improved/changed? What should stay the same?
4. Do you have any familiarity with district instructional coaches versus campus instructional coaches? Which one do you think has the most positive impact on teachers? Why?
5. Do you think that district instructional coaches have other roles that may impact their ability to perform instructional coaching duties?
6. Do you think that perceptions of instructional coaching have an impact on the implementation of instructional coaching?
7. How does the perception of a teacher on instructional coaching impact the implementation for instructional coaching?
8. How does the perception of the principal on instructional coaching impact the implementation for instructional coaching?
9. How does the perception of the instructional coach impact the implementation for instructional coaching?
10. How doe STEM impact or affect your implementation of instructional coaching?
11. As a science skills specialist who implements instructional coaching, do you feel the need to increase your knowledge of STEM in efforts to assist your teachers?
12. Should science skills specialists who are implementing instructional coaching in an urban school district utilize Culturally Responsive Teaching strategies?
13. How can Culturally Responsive Teaching be implemented through instructional coaching as science skills specialists?

Figure 6 Focus group questions

Follow Up Interview Questions for Secondary Science Skills Specialists

1. With no implementation model for our district, what steps did you take to implement instructional coaching on your campus?
2. Do you think your school's climate and culture supports instructional coaching? Why?
3. If you could focus on instructional coaching, is there anything you would ask your principal to do to assist you in this? Is there anything you would ask your district?
4. What is needed to get teacher buy-in of instructional coaching on your campus?
5. What trainings would you like provided if instructional coaching was your focus?
6. If your district had instructional coaches for secondary teachers, like they do for elementary, would you consider being a district instructional coach? Why or why not?

Figure 7 Follow Up Interview Questions for the Secondary Science Skills Specialists

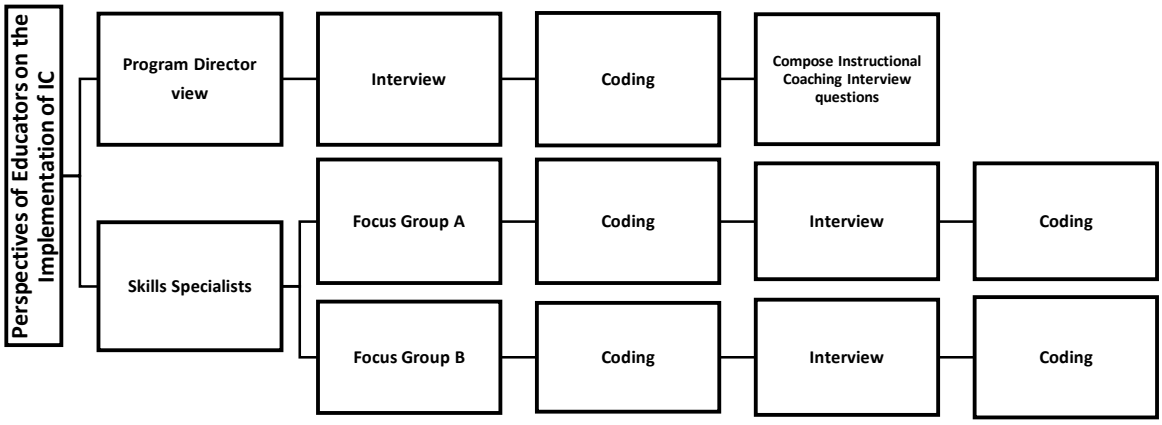

Figure 8 Perspectives of Educators on the Implementation of instructional coaching Dissertation Framework

UNIVERSITY of HOUSTON

DIVISION OF RESEARCH
Institutional Review Boards

APPROVAL OF SUBMISSION

February 18, 2019

Willette Trotty - Aubrey

wftrotty@uh.edu

Dear Willette Trotty - Aubrey:

On February 18, 2019, the IRB reviewed the following submission:

Type of Review:	Initial Study
Title of Study:	EDUCATORS PERSPECTIVES TOWARD IMPLEMENTING INSTRUCTIONAL COACHING IN AN URBAN SECONDARY SCIENCE DEPARTMENT
Investigator:	Willette Trotty - Aubrey
IRB ID:	STUDY00001337
Funding/ Proposed Funding:	Name: Unfunded
Award ID:	
Award Title:	
IND, IDE, or HDE:	None
Documents Reviewed:	• HRP-503 Protocol Template Trotty-Aubrey Educators Perspectives on Implementing IC 3.0 .pdf, Category: IRB Protocol; • Science Skills Specialist- Program Director Consent Form , Category: Consent Form; • IRB Interview Questions for Secondary Science Program Director.pdf, Category: Study tools (ex: surveys, interview/focus group questions, data collection forms, etc.); • IRB- Recruitment Letter Educators Perspectives on the Implementation of Instructional Coaching.pdf, Category: Recruitment Materials; • School District Approval, Category: Letters of Cooperation / Permission; • IRB Focus Group Questions for Science Skills Specialists.pdf, Category: Study tools (ex: surveys, interview/focus group questions, data collection forms, etc.);

Page 1 of 2

UNIVERSITY of HOUSTON

DIVISION OF RESEARCH
Institutional Review Boards

Review Category:	Expedited
Committee Name:	Not Applicable
IRB Coordinator:	Danielle Griffin

The IRB approved the study on February 18, 2019 ; recruitment and procedures detailed within the approved protocol may now be initiated.

As this study was approved under an exempt or expedited process, recently revised regulatory requirements do not require the submission of annual continuing review documentation. However, it is critical that the following submissions are made to the IRB to ensure continued compliance:

- Modifications to the protocol prior to initiating any changes (for example, the addition of study personnel, updated recruitment materials, change in study design, requests for additional subjects)
- Reportable New Information/Unanticipated Problems Involving Risks to Subjects or Others
- Study Closure

Unless a waiver has been granted by the IRB, use the stamped consent form approved by the IRB to document consent. The approved version may be downloaded from the documents tab.

In conducting this study, you are required to follow the requirements listed in the Investigator Manual (HRP-103), which can be found by navigating to the IRB Library within the IRB system.

Sincerely,

Research Integrity and Oversight (RIO) Office
University of Houston, Division of Research
713 743 9204
cphs@central.uh.edu
http://www.uh.edu/research/compliance/irb-cphs/

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